the American Perfumer
and ESSENTIAL OIL REVIEW

COSMETICS · SOAPS · FLAVORS

EST. 1906

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Editorial Comment

Oils Shortage To Continue

Soap fat supplies for civilian use may be expected to take quite a good turn for the better through drastic reduction in military procurement of soap. This amounted in 1945 to an estimated equivalent of 300 million pounds of fat. So much for the bright side of the picture.

Our current domestic production of fats and oils is estimated at 9.5 billion pounds, the same as 1945. Average consumption amounted to about 11 billion pounds before the war.

In as much as the Far East supplied 35 per cent of the oils and fats that went into international trade before the war it may be said that this area is currently the key to the restoration of normalcy in the world use of fats and oils.

Manchuria, China, Malaya and the Dutch East Indies have not added anything to the fats pool although they have been liberated for months. The Department of Agriculture has indicated that supplies from these areas will remain small for the first half of the year.

Exports from the Philippines have been variously quoted, but all estimates have been low. The bottleneck, as was previously reported in this column, appears to be transportation. This condition is improving, but fats for soap will, of necessity, be short for quite some time to come.

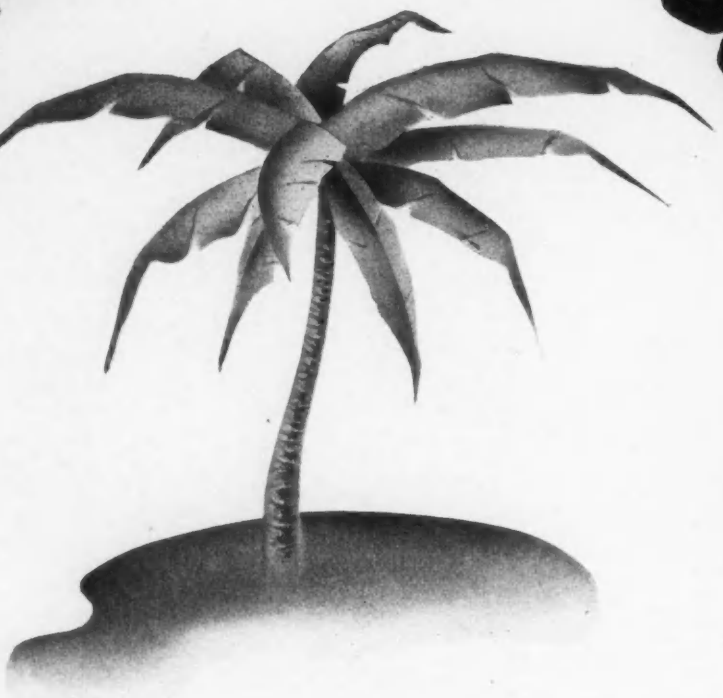
Drastic Lead Cut Due

Civilian Production Administration officials have stated that the situation in lead has darkened to the point where "there isn't enough to supply minimum essential users."

The condition has been aggravated by the continued strike among the workers of the American Smelting and Refining Company, which supplies about 50 per cent of the lead used in this country.

An adjustment in pricing which would result in increased imports and stimulate domestic production would not change the outlook for several months. Unrestricted demand cannot be met for another year.

OIL YLANG SYNTHETIC SUPERFINE



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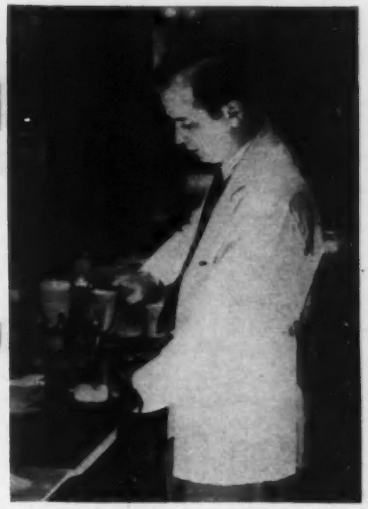
Desiderata

by MAISON G. DeNAVARRE



M. G. DeNavarre at work in his laboratory

CREAM SHAMPOO

The interest in cream shampoo has been so great that a number of suppliers have made specialty bases, enabling the quick and easy formulation of a cream shampoo. The writer has tested a good many of these and for the most part, the specialties have not been particularly good. The compounders have failed to realize that the cream shampoo formula must be stable at least at 110 deg. F., that it must give loads of lather that is reasonably stable and that it must work in hard as well as soft water. Some of the products have been too loaded with electrolytes, thereby causing crystallization of the salt in the resulting *cream*. One organization has recently sent out samples of cream shampoo made with some of their specialties and outside of the fact that the shampoo consists almost entirely of the specialty, one formula in particular looks exceedingly good. It contains 60 per cent of a specialty No. 3180, 34 per cent of salt brine 25 per cent solution and 6 per cent of another specialty entitled ML. The mixture is heated together and poured at around 40 deg. C. when it is allowed to set. This formula retains its characteristics at 110 deg. F., does not seem to crystallize when left in open jars at room temperature even though it contains about 8 per cent of salt and it gives a pretty good lather. If you are interested in the name of the supplier of this group of specialties, we will be glad to give you the information.

Last month it was mentioned that the sodium cocoanut alcohol sulfates were now regularly available for use in cream shampoo. We hasten to remind you that soap in small amounts knocks the dickens out of the lather and most fatty materials added to maintain opacity at high temperatures likewise reduce the foaming properties.

Practically every cream shampoo on the market has been tested in this laboratory for its stability at 110 deg. F. and found to be unstable. How manufacturers think their product will withstand the ravages of summer handling is not known. Certainly their product is going to look like sour milk once it is exposed to this high temperature and allowed to cool.

STABILIZED DIACETYL

A sample of *stabilized* diacetyl has just been received for testing. The product is a white powder with a faint odor of diacetyl. It is recommended to be used in candy and baked goods as well as other places where heat tends to volatilize the flavor. The product is not yet being commercially made, but if its potentialities are as great as they appear, it will undoubtedly be available to one and all soon.

Of course diacetyl is not the sole source of butter flavor, although all good butter flavors today contain it as one of the primary ingredients. With this thought in mind, a new stabilized compound may be limited in use.

HEXYL RESORCINOL

The patent restrictions on hexyl resorcinol are off because the patent on it has run out. As a result quite a few people have become interested in this antiseptic chemical. For some time it was available only through some of the smaller dealers in chemicals who may have imported it or made it as the case may be. Deliveries were difficult and sometimes delayed. The quality of the material was not always uniform. It is now possible to get hexyl resorcinol from an established large manufacturer of fine organic chemicals at a very interesting price. Therefore, if you are contemplating the use of hexyl resorcinol, this new source should be investigated.

SUNSCREEN

Sometime ago it was mentioned in this column that if a sunscreen were available that would give a hydro-alcoholic lotion, capable of being sold at retail for about 25c. per two-ounce bottle that both the sunscreen manufacturer and the manufacturer of the packaged lotion would do exceedingly well by themselves. The print was hardly dry when a manufacturer of sunscreen pointed out that his product could do all that was required at the right price. Further checking indicates the manufacturer has a point there. For when 2 per cent of glyceryl para-amino benzoate is dissolved in enough 50 per cent alcohol solution, the resulting lotion needs nothing more than perfuming and tinting. It has excellent sunscreening properties and it leaves a continuous and non-sticky film. This sunscreen has been used by military personnel and found to be effective under actual conditions of usage.

To be able to manufacture and sell as outlined above, the product will have to be made in large quantities right from the outset. So, here you have the formula and an idea for a

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big business. Wonder how many people are going to capitalize on it.

In this line, it is appropriate to clarify a point regarding the use of glyceryl salicylate, another sunscreen. Rumors have been going around the trade that this chemical is unsatisfactory because it tends to hydrolyze, giving off salicylic acid which is supposed to be irritating. Suffice it to say, countless people have used sunscreening preparations containing glyceryl salicylate without any irritation. In addition, glyceryl salicylate under continuous exposure to tropical sunshine shows no tendency to hydrolyze into its original components.

CORRECT PROCEDURE

A question often comes up as to which is the correct procedure in making emulsions; should the alkali-water mixture be added to the fats or should the fats be added to the alkali-water mixture? It is doubtful if there is a hard and fast rule for there are manufacturing processes now in existence which can prove that each procedure can give a satisfactory and stable product.

A good pharmaceutical procedure is to add the alkali containing liquid to the fats containing the fatty acids. The reasoning is that small amounts of alkali continuously being added up to the last, continue making minute amounts of soap which in turn acts as an emulsifier. In view of the fact that better and more stable emulsions are usually produced when the soap or emulsifier is made within the emulsion and during emulsification, it is obvious that this procedure should always give good results.

Another matter of procedure deals with the addition of water to fats containing a dissolved emulsifier such as a soap. The small additions of water at the outset of the emulsification may often times be completely absorbed or dissolved (apparently) by the fats. If this is true, the water should be added very slowly and mixing should be complete after each addition of water for what is actually happening is that an inverse or water-in-oil type emulsion is being formed. Eventually the mixture will no longer absorb water and the emulsion will reverse itself, forming, quite suddenly, a thin, white liquid instead of continuing as a heavy, petrolatum-like paste. In emulsions of this type, one must be exceedingly watchful of temperatures and rate of water addition. A slight slip may produce an emulsion that creams or completely breaks. Through careful experimentation, the exact conditions leading to a stable emulsion will have to be determined and then strictly followed.

NAIL POLISH RESEARCH

We get letters off and on from people who develop a dermatitis as a result of using one kind of nail polish or another. While the number is very small, it is, nevertheless, an indicator that more work has to be done in determining safety factor in nail polish compounding. Most often consideration is given only to the way the ingredients may affect the adhesiveness, appearance or wearing qualities of the nail polish. It is becoming apparent from publications as well as from the enquiries just mentioned that some plasticizers seem to predispose individuals resulting in a sensitization. Clinical work on the plasticizers is indicated. It may be traces of impurities that will have to be removed such as those that have been found in bromo acid. If this is so, a special nail polish grade of plasticizer will have to be put on the market.

QUESTIONS AND ANSWERS

587. BASE FOR SOLIDIFIED PERFUME

Q: *We have been experimenting with solidified perfume, but have not been able either to purchase or prepare a suitable base in which to carry the odor. Many of those on the market, or such as we have been able to prepare are too soft or too greasy, or where a wax is used, is too hard. What we are after, is a base that would not run easily in warm weather, nor congeal too readily in cooler weather and become like a hard wax.*

H. J.—CONNECTICUT

A: Solid perfumes are not simply ordinary perfumes solidified by means of a wax or some similar substance. Actually the perfume must be carefully selected to be useful in solidified form. Usually such perfume is strongly fortified with solid perfume ingredients such as the musks or heliotropin. One of the best solidifiers is acetanilid which may be used up to about 70 per cent. As much as 7 per cent perfume can be incorporated in such a mixture together with 15 to 20 per cent of synthetic musk, 3 or 4 per cent of heliotropin, 2 or 3 per cent of beeswax and 5 to 8 per cent of magnesium carbonate. In making the product, the ingredients are all melted together (except the carbonate) and when a clear mass is formed, the powdered material is added, followed by the perfume. The whole mass is poured into molds and quickly chilled. Try this procedure and formula and see if it doesn't help you out.

588. COLD WAVE FORMULA

Q: *I understand that there is a cold wave permanent in the U. S. A. Could you give me a formula for the making up of this solution? I want only the best, as my salon is one of the best in this city and I wouldn't consider any material unless it was the best. I don't mind paying for any information you forward, as long as it is beneficial to my beauty salon.*

A. O.—NEW ZEALAND

A: The cold wave solutions used in the United States consist of solutions of ammonium-sodium thioglycollates in a concentration ranging from about 3 per cent to as much as 8 per cent. The usual strength is 6½ per cent to 7 per cent of active ingredient. This solution is then completed by the addition of a penetrating agent and a buffer to prevent destruction of the fingers by the waving solution. The test curls are made in the usual fashion, and are allowed to react at room temperature for about 15 to 25 minutes, depending upon the hair. The action of the thioglycollates is then arrested by an acidified solution of hydrogen peroxide or by means of an oxidizing agent such as sodium, iodate or bromate. Naturally, it is all quite complicated and requires careful control

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Progress in Essential Oils and Toiletries

A comprehensive review of the developments of the past year in the field of essential oils and synthetics

by DR. PAUL Z. BEDOUKIAN
Compagnie Parento, Inc., New York, N. Y.

CONTINUED shortages in the past year of many important essential oils and of raw materials necessary for the manufacture of synthetic products have focused attention on new sources of supply. Considerable efforts have been made to cultivate well-known essential oil bearing plants in the western hemisphere. These have met with some success, especially in South American countries. New syntheses of well-known perfumery materials and development of aromatics from new sources have been reported. Nevertheless, pure research which is a measure of real progress in our knowledge of plant materials and synthetics is at a low ebb.

STUDIES ON THE NATURE OF ODOR

Many theories have been advanced regarding the nature of odor, but up to the present time efforts to measure it or to place it on a physical basis have been unsuccessful. The problem offers fascinating possibilities to physicists and chemists.

Some of the well-known physical properties of odorous materials such as Raman spectra, ability to impart a charge to water particles, and effect on the surface tension of mercury were discussed in a publication.[1] An instrument called "Stinkometer" for the measurement of volatile odors was recently described.[2] Perception of odors by human beings[3, 4, 5] and the odor sensitivity of Lepidoptera[6] were the subjects of interesting articles. It is a known fact that many animals possess a much keener sense of smell than human beings and quite often detection of the presence of an enemy is accomplished by this means. This fact has led to the development of certain odorous products such as skunk extract for use as rodent repellents.[7]

Two publications dealing with the importance of odor fixation and the use of fixatives in perfumes appeared in the past year.[8, 9]

PROGRESS IN TERPENES

Elucidation of the structure of terpenes is of the utmost importance to our knowledge of essential oils. In the study of isomerisms in the fenchane series, the configuration of b-fenchol and b-fenchylamine was investigated.[10] The constitution of ozone degradation products of camphene has been determined.[11] Studies have been made on absorption spectra of umbellulone from California laurel oil and of carone.[12] The structure and stereoisomerism of pinocarvone and the two pinocarveols have been determined.[13] Two terpene derivatives, namely 4-ethylcamphor[14] and 2-nitrocamphene[15] have been synthesized. Additional products of acetylenedicarboxylic ester, azodiformic acid ester and maleic anhydride to caryophyllene, were prepared and their properties determined.[16]

In the study of the azulene content of chamomile flowers, it was found that this hydrocarbon occurs not in the free form but as a precursor which decomposes in an acid medium giving the azulene.[17] A review on nonbenzenoid aromatic hydrocarbons including azulene has been published.[18]

MUSK-LIKE COMPOUNDS

Study of the extraction of musk-like compounds from muskrats continues. Aside from normuscone and dihydrocivetone, the existence of small quantities of cyclotridecanone and cyclononadecanone has been established and the presence of another unidentified ketone shown.[19] It is interesting to note that the relative amounts of these ketones parallel closely the amounts of the corresponding fat acids with one more carbon atom found in the muskrat. This indicates positive evidence of a close biological association of these ketones with the corresponding fat acids. The procedure for extracting the large ring compounds from muskrats is described in two patents.[20, 21] The skunk scent has also been investigated with a view to dis-

(Editor's note: This article will be continued in the next issue.)

covering new sources of musk-like compounds. The extract, however, consisted mainly of sulphur compounds with apparently no large ring musk or civet type compounds.[22]

The synthesis of large ring compounds is of theoretical interest as well as of practical value to perfumers because these compounds have a musk-like odor. Large ring ketones possessing musk odor are most conveniently prepared from the corresponding diacids. A study has been made of the thermal decomposition of a number of salts of polymethylene alpha-omega dicarboxylic acids. It was concluded that the formation of ketones depends on the depolymerization of diacid salts at the moment of their transformation into ketones.[23] The preparation of the trans- and cis-9-octadecenedioic acids has been accomplished in connection with research related to the synthesis of civetone.[24] An unusual method of obtaining large ring compounds is the preparation of cyclophendecane from benzosuberan described recently.[25]

RESEARCH IN ESSENTIAL OILS

Critical study of lavender oil which was undertaken some time ago is being continued. This type of work illustrates clearly the complex nature of essential oils and the difficulties involved in the separation and examination of their constituents. From a certain fraction of lavender oil, the following alcohols were definitely identified: hexanol, l-linalool, geraniol, lavendulol, d-citronellol, d-borneol, and cuminyl alcohol. These alcohols apparently occurred in the form of esters of the following acids: acetic, saturated and unsaturated caproic, capric, optically active valeric, heptoic, benzoic, tiglic, pelargonic, unsaturated octylic, monocyclic unsaturated nonylic and phenylbutyric acids.

The occurrence of coumarin and herniarin was also establishd in the higher fractions.[26] Another worker reports optically active amyl vinyl carbinol in lavender oil.[27] Amongst the alcohols, hydrocarbons and oxides in the sesquiterpene fractions, the presence of cadinol, bisabolol, caryophyllene, cadinene and bisabolene was indicated.[28] As a result of these investigations on lavender oils, new and hitherto unknown constituents will quite probably be reported.

It is well known that odor variations exist in the optical isomers of many compounds. It is also known that geometrical isomers differ in odor as illustrated in the case of nerol and geraniol. The geometrical stereoisomerism of violet perfumes 3-hexen-l-ol, 2, 6-nonadienal and 2, 6-nonadienol has been examined. Natural hexenol from Japanese peppermint has been found to have the cis form and from violet leaf oil, the trans form. The natural violet leaf alcohol was found to be 2 (trans), 6 (cis)-nonadien-l-ol, while the natural leaf aldehyde is probably 2 (trans), 6 (cis)-nonadien-l-al.[29]

Pennyroyal oil (mentha pulegium 1) was found to contain besides carvacrol and thymol, a lactone similar to that obtained by the photooxidation of pulegone, and also a lactone which is possibly nebeta lactone.[30] It was shown that b-phellandrene is a natural constituent of eucalyptus cneorifolia.[31]

The need for a greater amount of research with a view to obtaining higher quantities of perfume from flowers was brought out in a recent article.[32] The use of unsaturated compounds such as ethylene to induce abscission in plants for harvesting purposes was reported.[33] A description of pre-war Soviet factory methods of production of flower oils such as jasmine and tuberose has appeared.[34]

Ultrasonic velocities and adiabatic compressibilities in a number of essential oils and synthetics have been determined.[35]

TURPENTINE DERIVATIVES

The tremendous quantities of turpentine produced annually constitute a large potential source of raw material for the perfumery industry. Through a series of reactions, pinene, the main component of turpentine oil, may be converted to a great variety of valuable odoriferous substances. It is therefore not surprising to note the increased interest shown in this field.

Studies on hydrogen disproportionation of the terpene series are continuing.[36, 37] Conditions for converting pinene from Indian turpentine into terpene hydrate and terpineol, and its catalytic conversion to p-cymene, were given in a recent publication.[38] Cymene is a valuable material and its manufacture from terpenes has been the subject of a number of studies and patents.[39, 40, 41] Dimethylstyrene may also be obtained from catalytic dehydration of terpenes.[42, 43] These processes involve thermal isomerization of terpenes. The reaction has been studied both in the liquid phase[44] and the vapor phase.[45] Camphene is another product of the isomerization of pinene. Its manufacture has been the subject of two patents.[64, 47] Production of camphor by hydration of cymene has also been patented.[48]

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Important Facts Regarding Hair

*No other part of the body engages so much daily attention as the hair . . . This article helps to clarify some misunderstood phases of the structure, function and hygiene of the hair and scalp**

by OSCAR L. LEVIN, M.D., and HOWARD T. BEHRMAN, M.D.

THE pace of modern medical advance is so rapid that there is a tendency to minimize the minor ills of mankind. At a time when such great strides are being made in the science of medicine, it seems almost unsuitable to report a study of a seemingly unimportant appendage such as the hair. The practitioner is, for example, apt to derive or disregard the earnest request of a patient for advice concerning alopecia. Yet no other part of the body engages quite so much daily attention as the hair. As an adornment or the reverse, as a useful portion of the organism, or merely as an appendage which we inevitably spend so much time in combing, brushing, shaving, washing, cutting, and arranging, hair is of great moment in the life of the average individual. Yet this commonplace appendage contributes to a surprising number of misconceptions and contradictions. The layman knows less about hair and accepts more bad advice concerning it, than about any other equally important part of the body. Old wives' tales and barbaric maxims are followed carefully and with great respect. Failing vision is not entrusted to makers of glass eyes nor arthritic feet to manufacturers of wooden legs. Yet we entrust our scalps to the pseudo-knowledge of savants such as those who maintain that when it is cut, hair "bleeds" and must be singed lest it die; we daily apply various medicated soaps and lotions whose only virtue exists in the cleansing and massaging of the scalp incidental to their application.

*Reprinted from The Merck Report.

The physician is frequently consulted for some disorder of the scalp. He should be well acquainted with the facts of hair and its growth so that he can properly advise patients and prevent them from falling into the hands of the untrained and the unscrupulous. It is the purpose of this article to analyze the nature of hair, to repudiate some of the generally circulated fallacies regarding it, and to present a feasible program for the proper care of the scalp.

GENERAL STRUCTURE

The hair is a horny structure formed by a tubular downgrowth of the epidermal layer of the skin. It grows down through the epidermis into the corium until it meets one of the minute conical elevations of the corium known as the papillae. It is at the meeting place of the papilla and the follicle that the epithelial cells are so modified as to form a hair (Fig. 1). Hair takes its shape, size, and direction from the follicles through which it is forced during the process of growth. The follicles are set in the skin at various angles which regulate the "grain" of the beard and the characteristic growth of the hair of the scalp. The curved follicles in the Negro scalp are responsible for his kinky hair. The part of the hair in sight above the skin is the shaft. The hair may be flat, oval, or round in cross section (Fig. 2), and it is this contour which determines the straightness or curli-

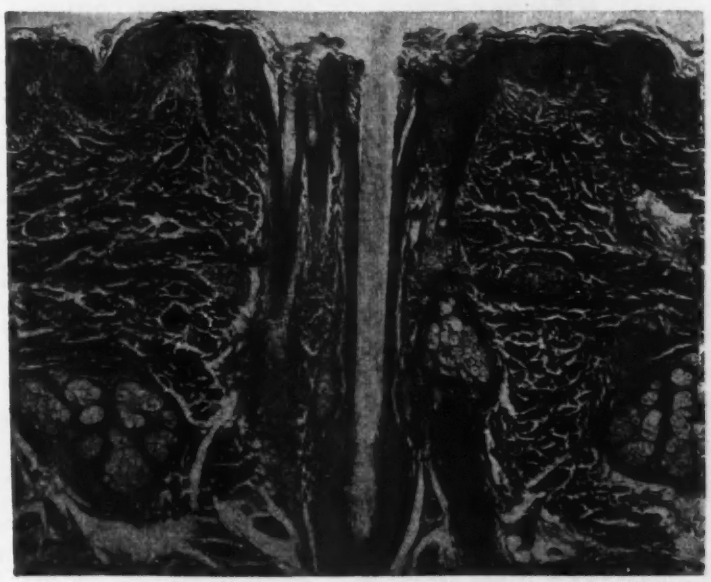


Photo Julius Weber

Fig. 1. Section of scalp showing origin of hair follicle; note surrounding tissue and particularly the three sweat glands

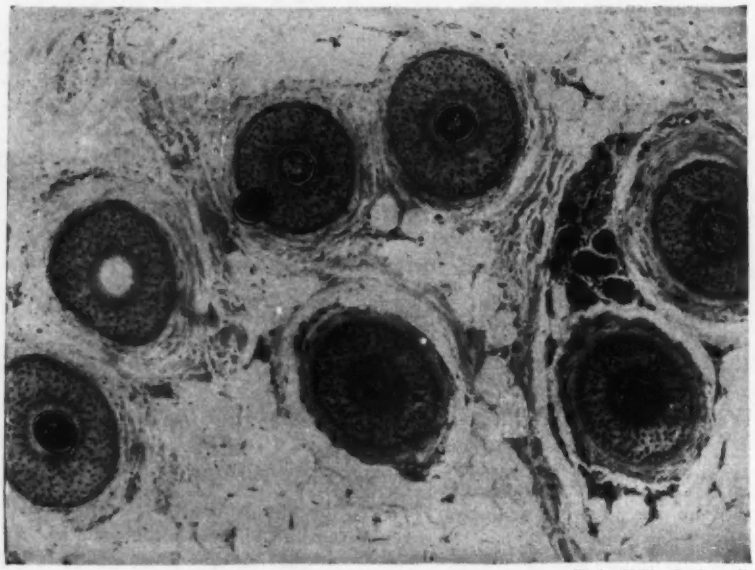


Photo Philip O. Gravelle

Fig. 2. Transverse section of hairs of the scalp showing their location within a sheath; note the medulla (darker area) in each hair

ness of the hair. The flatter the contour, the curlier; the rounder, the straighter the hair. The blood supply of the hair is derived solely from the papilla (Fig. 3). As long as the hair and papilla are connected, and the papilla is providing nourishment, simply the bulb which rests on the papilla. Even as the patient with sorrowful pride displays what he calls the root, the papilla and follicle from which it came probably are regrowing a new hair, bulb and all, to take the place of the old hair.

Photo Philip O. Gravelle

Fig. 3. Hair follicles, showing surrounding capillary blood supply

the hair is viable. Separated from the papilla it "dies," but if the papilla and follicle are functioning another hair takes its place.

Nine out of ten people who seek treatment for the loss of hair believe that their hair is falling out by the "roots." Actually, the "root" which the patient zealously demonstrates is

A hair has three important layers (Fig. 4). The outer, horny epithelial sheath is composed of smooth, flat, transparent cells piled one on another like shingles on a roof. Because of this arrangement and the density of the cells, the outer layer forms a very effective shield for the internal part of the hair. In fact, it has been observed that the hair is the least destructible part of the body, and hence the last of the human tissues to decay. The second layer of cortex is composed of elongated cells which give the hair its flexibility. When these cells cease to function the hair breaks. Small openings in the cortex hold the oil which gives hair its luster; lacking this oil, the hair appears dull and coarse. The innermost layer or medulla (Fig. 5) is composed of several rows of cells placed side by side. Hair may be classified into three main physical varieties: the scalp and beard are covered with long, soft hair; the eyebrows and eyelashes with short, stiff hair; scattered over the remainder of the body is the soft, downy, colorless lanugo which is absent from the palms and soles.

COLOR

The color of the hair is due to the characteristic shade and amount of pigment in the cortex. This pigment (melanin) is brought to the hair papilla at the time the hair is being formed and deposited therein. Sorby dissolved the pigments of the hair and found that blond hair was due to a mixture of red and yellow; brown and black due to black pigments; white hair contained no pigment. At one time, it was believed that white hair was associated with the presence of air spaces in the cortex. Strong showed that hair and feathers are white for the same reason that powdered ice or glass and other transparent substances in a fine state of division appear white. White or gray hair is due to the failure or absence of pigment materials in the hair that is being formed before cornification takes place. Air spaces in the cortex are not of importance except in the rare condition of ringed hair. In this dystrophy, the hair appears ringed, due to alternating light and dark bands along the shaft. Cady and Trotter soaked the light rings with five per cent sodium hydroxide following which they disappeared, showing that the patches had been air cavities probably containing carbon dioxide. After many tests they concluded that ringed hair was caused by the presence of gas-filled spaces in the medulla and cortex which rendered the outer cortical cells opaque and concealed the pigment from the eye. Most people

have heard reports of hair turning white overnight. Scientific exactitude makes this observation improbable, yet there are many reported instances in the literature. Jackson recorded a patient whose hair turned from black to white and black again three times in thirty years. We have seen numerous cases of alopecia areata in which the returning hair-growth was white at first and eventually returned to its normal color. Prematurely gray hair often occurs in several members of a family and has no connection with rheumatic or diabetic diatheses as is often believed. However, it also may appear in unhealthy local conditions of the scalp, and in such cases the graying may be forestalled with proper therapy. Whatever the cause, grayness seems to be the fate to which many scalps are born. Once the hairs have turned gray there is no form of treatment which can restore their natural color. It is impossible to change the color of white or gray hairs by any physiological process, nor is there any dye that will last. Within the past few years, certain members of the vitamin B-complex have been reported to lessen or alleviate gray hair. The two substances most widely publicized were para-minobenzoic acid and the pantothenates. Experiments performed on animals fed on diets deficient in these substances were suggestive of their relationship to the prevention of gray hair. These claims have not been substantiated by scientific studies performed on humans. Hair may have a yellow color due to lotions containing resorcin or phenol, and may be due to lead dyes from hair curlers left on for several hours.

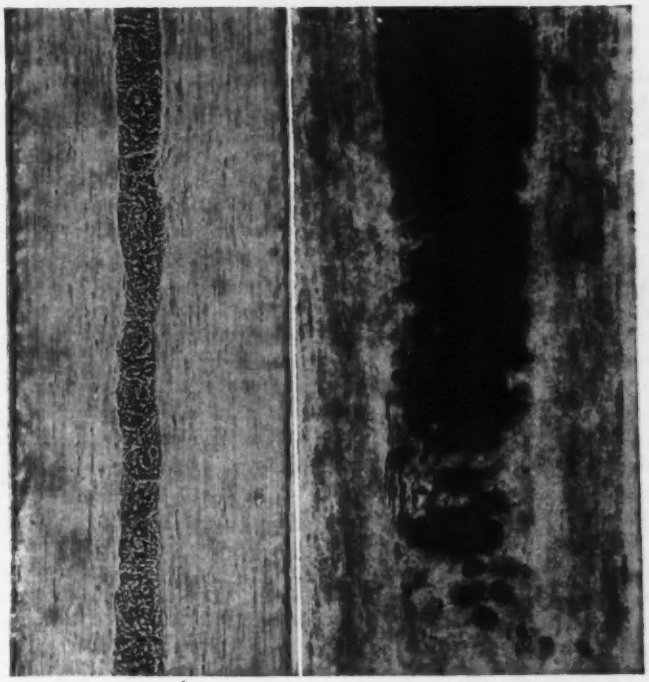


Photo Philip O. Gravelle

Fig. 4. Left—Human (female) hair showing granular appearance of the medulla

Fig. 5. Right—Human (male) hair from beard; note the medulla missing from one end

GROWTH

The highly vaunted effects of various chemicals and mechanical agents on hair-growth have never been proved. The rate of hair-growth varies with the age of the hair. Hair grows rapidly at first and then reaches a stage during which it grows slowly. If hair is cut during the first stage of its life, it grows very quickly. If it has been cut during its decadent era, it grows very little. Hair grows faster in Summer than in Winter. The usual rate of growth is from three-eights to three-fourths of an inch a month. Hair does not grow after death, despite the notions of authors of mystery tales, who attach great importance to the growth of hair following decease. The prominence of hair after death is due merely to shrinkage of the tissues with resulting projection of hair. Bulliard showed, in a series of experiments, that frequent cutting and shaving do not stimulate the rate of growth, although coarseness may be increased. Pohl-Pincus cut off circles of hair on the scalps of numerous male adults. He measured the rate of growth on the shorn and unshorn areas and found that hair grew less rapidly on the shorn areas. From these and the present authors' observations, it can be concluded that shaving may activate a certain number of hair follicles in a given area and may lead to a coarser growth of hair. However, it will not cause an increase in the rate of growth in length of the individual hairs. Strangeways conducted a series of experiments on hair-growth in guinea pigs. He found that pregnancy slows the rate of hair-growth and the number of active follicles. This confirms clinical observations of the frequent occurrence of diffuse alopecia during or immediately following pregnancy.

The fundamental cause of baldness is unknown. There are many bald men and few bald women. Why this difference in the sexes exists cannot easily be explained on the too simple basis of secondary sex characteristics. Many isolated facts involving hormones are known to students of the subject. These include the abundance of hair usually present on the scalps of eunuchs; the bearded faces of women with tumors of the pituitary or the adrenal glands; the loss of hair from the scalp accompanying pregnancy and the menopause, as well as the hair-increase on the upper lip and chin during these same two states; the dry, thin and brittle hair of hypothyroidism most apparent in myxedema; and the rapid increase of facial hair observed in women receiving injections of male-sex hormones. Unfortunately, these isolated facts follow no single pattern and from them it cannot be deducted that baldness and virility, for example, are related.

NUMBER OF HAIRS

The number and diameter of the hairs were first determined by Erasmus Wilson, and since then by several other observers. There are ap-

proximately one thousand hairs per square inch of scalp; a total of 120,000 hairs on the average scalp. The finest hairs are blond, may number 150,000 to a scalp, and usually measure from one five-hundredth to one fifteen-hundredth of an inch in diameter. The coarsest hairs are black, and vary in thickness from one one-hundredth to one four-hundredth of an inch. The least luxuriant hair is red, and may number only 90,000 hairs to a scalp. The normal life of a hair varies from several months to four years. The eyelashes last about 150 days. New hairs usually appear within 41 to 72 days. Pohl-Pincus states that in health the number of short hairs do not exceed one-quarter of the total loss. It is known that a certain number of hairs are lost even in health. In uncut hair, the number of hairs which fall out over a period of time can be collected and assorted into two groups, those under and those over six inches. If the group under six inches is less than one-quarter of the total loss, then no disease is present. When hair is cut, it should be sorted into those with blunt or cut ends, and pointed or uncut ends. The proportion of pointed hairs to the cut hairs should not be greater than one-fourth of the total loss.

MOLECULAR STRUCTURE—ELASTICITY

Astbury, by means of roentgen-ray diffraction photographs, showed that hair is a molecular yarn. The molecular chains are composed of polypeptide linkages with numerous side-chains. Ordinary unstretched hairs are buckled so as to accommodate the numerous interactions between these side-chains. When hair is stretched, a transformation of short to long molecules occurs. Water helps hair to stretch farther and more easily. A hair that has been stretched and dried hardly contracts at all; but once it is wetted it contracts again with amazing speed. This is the scientific basis of water-waving. To get a permanent set, the hair must be stretched in very hot water for a considerable period of time, and this action is accelerated by means of alkalies. This can be performed with minimal damage by an expert. However, if a hair is stretched by about fifty per cent of the length, and steamed and stretched for several hours, the scale-sheath often breaks into short sections. These sections are so loose that they can be slid along the cortex like rings on a curtain rod. Permanent waving can be accelerated by strong alkalies which dissolve the keratin. In addition to the physical damage incurred, the resulting set must be carefully nurtured and kept in place. For this purpose, there are various setting lotions, usually mixtures of nonvolatile alkalies, gums, and ammonia. The so-called "oil-wave" is a mixture of ten per cent borax and potassium carbonate. There strong alkalies may break and split the hair shaft. The hair must be carefully kept in place following these applications, with the resulting accumulation of dry scales on the scantily brushed and combed scalp. It is unfortunate that one cannot make it mandatory for permanent-waving salons to display on their walls the dictum of Erasmus Wilson, "You cannot brush the head too much nor the hair too little."

From the preceding discussion of the molecular structure of hair, it can be readily understood that hair is elastic. Leftwich performed a series of experiments to determine

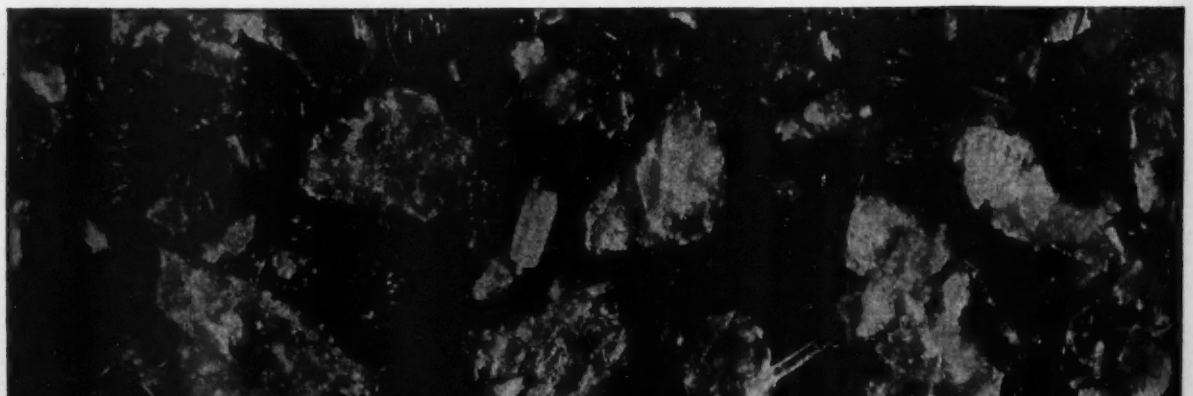


Photo Philip O. Gravelle

Fig. 6. Dandruff from the scalp

how far hair could be stretched without breaking. He also determined the effects of some common toilet preparations on the elasticity and strength of the hair. The average hair breaks when subjected to a pull of seven ounces. After immersion in alcohol, it breaks at six and one-half ounces. With immersion in soft soap, it may break after a pull of four or five ounces. Permanently waved hair may break at four ounces or less, according to Savill. Variations are common with different types and thicknesses of the hair shafts.

CARE OF THE SCALP

A clean scalp is uncommon. This is not strange when it is considered that the hair retains the dust and soot of the air, as well as the secretions of the sweat and sebaceous glands. Though its unclean condition may not always be readily apparent, the scales and secretions are very abundant (Fig. 6), especially when infection is present. Yet millions of otherwise cleanly persons, especially women, go through life believing that their hair should be washed as little as possible. They carefully wash the rest of their bodies at least once a day, and their teeth and faces several times daily, but they wash their hair only once in two or three months—a bad practice. Actually, the scalp should be washed twice a week, as a rule. If properly done, even once a day is not too much. In infectious disorders, the scalp may require two or three daily washings. The fact remains that, despite all time-honored notions to the contrary, washing in most instances does not harm the hair. With the proper soap, thorough rinsing and drying, and the application of oil or salve to hair which has a tendency toward dryness, shampooing neither dries the scalp, destroys hair-growth, nor increases scaliness. Instead, the dirt, dust, scales, grease, and infectious agents are removed, the liability of further infection decreased, and the general appearance of the scalp and hair improved. If this simple detail of personal hygiene cannot be followed, there is little use considering other local hygienic measures. In shampooing most scalps, the ordinary neutral soaps of well-known brands are as good as the more expensive perfumed soaps. In those patients exhibiting sensitivity to soap, as well as in certain normal scalps, the newer "soap substitutes" of a non-alkaline nature may be used to advantage. Within the past fifteen years, numerous substances have been developed which are similar to soap in their detergent action. At first known as "soapless shampoos," they are more adequately classified as "surface-active" agents. As observed by Lane and Blank, all surface-active agents lower interfacial tension but are not all equally good for wetting, emulsifying, and cleansing purposes. Stated in other words, a good wetting agent may not be a good detergent, and so a surface-active agent must be chosen to perform a specific function primarily. These substances include sulfated oils, alcohols, esters and ethers, as well as related chemical compounds.

DRUGS FOR THE SCALP

Various drugs, in the form of lotions and salves, are of value in the care of the scalp. Salicylic acid is a useful agent for local application. It exercises different properties according to the strength in which it is employed. It is slightly keratoplastic and antipruritic in a strength of two parts or less per hundred. It has a marked keratolytic effect in concentrations of three parts or more per hundred. When combined with other agents, it exerts a softening effect on the epidermal cells of the scalp. Sulfur has long been recommended in disorders of the sebaceous glands. Its action is increased when combined with alkalies such as sodium carbonate, or a soap such as soft soap, both of which are capable of removing the horny layer of the skin. The most commonly used preparation of sulfur for the scalp is the precipitated variety. Sulfur is used as a stimulating, keratolytic and keratoplastic agent. Its strength usually is varied between one and five parts per hundred. Various tars also have been recommended for their antipruritic and keratoplastic effects. The French prefer oil of cade and cedarwood oil. The English recommend liquor carbonis detergens. In this country, the foregoing preparations, as well as pine tar, birch tar, and crude coal tar are recommended. Ichthyol, a distillation product of bituminous shale, contains a large proportion of sulfur. It is a reducing agent and possesses exfoliative, astringent, and resolvent properties. It is used in ointments in strengths varying from one to five parts per hundred. Resorcin is frequently used in scalp lotions.

In conclusion, the plea for a more thorough understanding of hair and scalp disorders is again advanced. Although the functions of the human hair are essentially those of protection and adornment, it still is one of man's most cherished possessions.

Perfume Gets the Nod

The glamour girl of the Spring toiletries show put on by the New England Toilet Goods Association was perfume.

Although, as Pres. A. Nelson Liset pointed out in his message, "many manufacturers" are still experiencing "serious difficulties, such as procurement of materials and production problems," 100 exhibitors were able to fill two floors of the Parker House in Boston with their wares on Feb. 5, 1946.

Visiting buyers looked over the display of creams, lotions, lipsticks. powders, soaps and rouges, which would be on the market in a month or so, but their main interest was centered on the exhibit of the new ideas in perfumes, which scent-happy women are expected to snap up. Among other things there were lamps that burn perfumed oil, a perfumed wash for clothes, and perfumes to wear with all sorts of outdoor play and sport clothes, including a perfume to be worn with a bathing suit to go in swimming with.

Other activities of the show included a banquet given for the Past Presidents of the Association. Those receiving tribute and presented wrist watches were—James L. Wood, W. D. Crookes, Edward E. Manning, Harry F. Westervelt, Charles R. Buckley and John J. O'Hearn.

Officers of the Association elected were—James J. Clifford, vice-president; Maurice M. Schaffer, secretary-treasurer; and Governors elected were: Charles R. Buckley, Edward C. Bullock, Charles W. Carlyn, James J. Clifford, Clarence L. Cooper, Claude H. LeRoux, A. Nelson Liset, Colford J. Murphy, John J. O'Hearn, Maurice M. Schaffer and Harry F. Westervelt.

Short Adages

by R. O'MATTICK

OUR contemporary, *Drug Trade News*, has spotted this item recently from Buffalo. A well-known drug firm that sells a well-known something for colds reports the results of a survey published in no less a Journal than that of The American Academy of Ophthalmology and Otolaryngology! (We would rather keep our cold.) According to the survey, Monday is the "high point for colds," with more persons coming down with this ailment than on any other day of the week.

* * *

This must have much to do with the indisposition of our good friend, Dr. Rowmateral to do any kind of effective work on Mondays (or is it because he is still resting from Sundays?). We know many perfumers who can't do much smelling of samples on Mondays and also many salesmen of perfume oil compounds who don't go around with samples for the perfumers to smell on the first day of the working week.

* * *

Of course, there is always Tuesday, Wednesday, Thursday and Friday!

* * *

Two things which make us think of noses are odors and colds. Noses make us think of the following which we quote from memory. Can you guess the author and the source? A life-long subscription to THE AMERICAN PERFUMER will be presented by this corypheus to the first reader sending in the correct answer.

"The nose is the origin of the sense of smell and the sense of smell is something which allows of no augmentation. The moment this book is printed I shall probably remember a few dozen inventions that have to do with man's desire to multiply the powers of his nose, but just now I can't for the life of me think of a single one. And I am somewhat puzzled by the apparent neglect of such a tremendously useful organ. . . . A thousand years from now we may be bright enough to pay some attention to our olfactory potentialities. To-day we are not, and in the museum devoted to the achievement of Multiplex Man the nose is not to be found. The poor proboscis stands sniffling outside, the Cinderella among the organs, doing a thousand odd jobs and getting no other recognition than an occasional flick of a perfumed handkerchief."

* * *

Anyway, we hope the ingredients supplied to make the perfume on this handkerchief come from sources which do plenty of advertising in our pages!

* * *

This is nowise meant to be a plethora of platitudes, but in spite of the drawn-out strikes, the shortages and the setbacks, we look forward to great things before the end of the year. The Twentieth Annual Exposition of Chemical Industries, which we visited not once, but several times during the week, may have much to do with our optimism. We saw some of the things that give us a "look into the future." For our own particular field there were wondrous plastics for caps, new raw materials, new metal alloys, etc.

* * *

Otto Stock, who went along with us on one of our amblings through the four floors of the Grand Central Palace, was not as enthusiastic as we were. He pointed out that despite all the belt-conveyors and shakers and tumblers on exhibit, there was no way of conveying or shaking out a single pound of Patchouli Oil.

* * *

The Package Show took place in Atlantic City. The boys did their best. Our informer from that quarter reports that while little was said about deliveries and taking on new accounts, the entertainment between and after hours was lively and no one left this City by the Sea with regrets that he went out there for the Show.

* * *

Mr. Sand L. Wood assures us that he had nothing at all to do with the raising of the price ceiling on an oil having a name similar to his own.

* * *

A recent visitor from the Dutch East Indies has whispered to us that because of the destroyed crops normal production in that part of the world will not be resumed until about 1948. So that when some of these bright buyers talk about the war being over and not understanding why they cannot get the goods to-morrow morning, what is there to do but shrug your shoulders and say that you can't understand it either. It always makes them feel better to know that someone else also does not understand the things that puzzle them.

"It's my new shave cream formula, Doctor. Want to try it?"

The first installment of the new book "Marketing Drugs and Cosmetics" by Louis Bader and Sidney Picker makes its appearance on page 113 of this issue. THE AMERICAN PERFUMER feels that its readers will find this to be a particularly timely and worthwhile work.

Cosmetic Trends in the Middle West

Men's departments continue to expand in all stores . . . What about toiletries sets and kits for the masculine teen-aged? . . . Increased perfume allocations bring the sale of dram perfumes

by JEAN MOWAT

RECONVERSION cannot be considered merely a word applicable to the change-over of machinery, buildings, etc., from war to peace. It carries with it a new connotation —conversion to finer toiletries for men.

In pre-war days there were few offerings of items in this line for men, much of it was imported. Young America was accepting ideas and styles from the Old Country in wooden shaving bowls and similar items that the leisurely gentlemen of that section of the world used. The Middle West with the vigor and pep of youth didn't care for these do-dads. Many men didn't use anything except an after-shave lotion, and many preferred witchhazel. They looked upon the other products as fussy, feminine ideas that the family gave them when they had more handkerchiefs, ties and socks than they could use in a year.

Since the first of the year thousands of men discharged from the armed services have been purchasing more liberally of a wider variety of toiletries than at any time. Few stores now have the same buyer handle the toiletries for men and the regular cosmetic and perfume products for women. The separation is said to be good for business. Incidentally, in most cases it is men who are buying for men and many of these buyers are recently back from the wars.

TOILETRIES SPIRAL

These men are testing the products they purchase. They are re-arranging lines, displays and going out after this business. During February several pages of advertising of the finer lines were featured in newspapers throughout this area, and there was hardly a men's window which did not have a smart set featured as a gift. Men are "falling" for the smart names on the products with the same ease as the women and while they want a substantial looking bottle it can be gaily decorated or not—but it must stress the theme and style which the masculine mind likes.

The Chicago Mercantile operates in a building which is named after the trading center. A smart young woman has opened a tiny shop that is ten-feet wide and just long enough to accommodate 10 persons at the counter. One third of the shop's space is devoted to men's toiletries and it is a major part of the sale. Mary Ellen Cunningham has had extensive experience in the cosmetics field, having been in charge of the department for Sears in its Chicago north side store and later served as a demonstrator for Rubinstein at Gimbel's in Milwaukee. Eight of the outstanding men's lines are carried. Not only does this shop cater to the hundreds of men in the building, but next door and across the street are some 3,000 girls, and they like to shop here on the lunch hour.

Men's departments continue to expand in all stores. St. Paul and Minneapolis stores, as well as those throughout Iowa are making a point of featuring men's toiletries, both in departments, windows and connecting the story with smart advertising.

The idea of monograms is as highly favored for these sets as it is for the women. While individual sales are made there is an ever growing demand for sets and these, it is reported, may be expected to show a sales' spiral until after Father's Day.

ARE YOU A GAMBLER?

There is a story throughout the Middle West that men-buyers will gamble when women will ask if it will sell. A few years ago when cosmetics and perfume-cologne types were introduced for the growing girl, stores with outstanding reputations placed liberal orders and made a play for this business. Most of them lost their shirts on it. The sets were in the regular toiletries department and as the initial sale was small the girls didn't exactly push it. The idea—good as it was—seemed to die too young.

Some smart salesman had the idea that the regular department was not the right place for it—and suggested that it be placed in the girl's section to see if this made a difference. Who ever had the dream can thank his stars for the sales that have gradually been built up. Incidentally, any line that does not hold up is discarded, for these buyers of accessories are very keen, and have young girls handling the sales who quickly report whether or not their young customers like the packages, the name, and the contents.

This all lead up to a question which a mother of several young boys asked. "If such sets for girls can make them keep cleaner why can't some one put together such a package for my boys? My nine-year old is a sight . . . can't something be done to make him wash his neck

without me doing it?" she asked, despair in her voice.

Exactly. The moment we heard the idea it seemed preposterous. Yet, thinking it over possibly there was a place for it. What of these undergrad shops where the gang gathers? What about the camps, and the military schools? Kits for these have brushes — all necessary — and what the nine-year-older needs. But his brothers from 13 to 17 are thinking about shaving . . . why not something for a lotion with an astringent quality? A bar of soap that would be masculine and appeal to the gang . . . possibly some intelligent literature—a smart little brochure gaily illustrated—about the "First Shave" . . . and some deodorant.

"ABSOLUTELY NOT"

If you heard a thud or a boom from the Midwest in that February blizzard it was the re-action of the buyers to this bomb—as they termed it. Immediately the re-action was "absolutely no place for such an item." Then the idea seemed a little different. Perhaps? "Of course, it would be a gamble," said a leading masculine buyer, "but come to think of it those kids of mine are always swiping some of my cologne."

Women assistants in the men's sections had a little different re-action. "For many months we've been asked for something for the teen-age boys. We sell from the stock we have. A decorated bottle that suggests the hunter's dream is our best seller. The boy's friends or relatives may choose something else but, the lad often comes in and asks for the other. Cologne is the best selling item we have. Some of the boys in high school are also buying the liquid deodorant and the men from overseas are frankly asking for it and don't hesitate to say it was important in camp and certainly ought to be in business. The made-up sets, or well-made kits are offered to relatives for the boys and sell well. June is our biggest month, much more than Christmas."

There is no buyer in the country who fails to recognize the fact that with an educational program and smart promotion an idea can be put over. It took a long time, much experimentation and shifting about to find the right place for the sale of feminine teen-age cosmetics. The same will be a part for this masculine teen-age idea — if any one dares to challenge the mitt which a mother has thrown down in desperation. There is much to be said for it on both sides. It is a gamble.

EASTER PERFUMES IMPORTANT

"If we can obtain more bottles, more fancy packages and smartly ensembled sets, the Easter business will top our Christmas sales," is the general opinion throughout the Middle West.

The three days before St. Valentine's celebration arrived, more perfume pages were used than in the same period at Christmas. Chain drug stores used several pages and, instead of listing items, went in for illustrations, plenty of white space. Many readers mistook this new advertising slant by drug stores for that of department stores.

Smart perfume shops and counters are stressing the sale of perfumes with matching colognes. This is for day and night wear. The idea is being accepted. More cologne is sold to business girls than perfume, and this crowd demands a fine scent but one which is not pungent. The finesse in the buying of these is growing daily as the girls recognize that there is a place in the office for the fresh daintiness which a cologne can give. The same perfume scent goes on for evening. One maker has developed a single strength cologne for day wear and a double or triple for evening and thus is building a substantial sale. These can be matched in strength with perfumes that come in a white satin lined box and make an ideal Easter presentation set, for the young Easter graduate, the bride, and as an anniversary gift.

THE HANDS HAVE IT

February-March blizzards can be devastating to the hands and in Kansas City, Milwaukee, St. Louis and Omaha lotions for the hands have been outstanding in sale. Duluth gave some attention to hands but made a point of stressing the cream-tint foundation as the best bet for a perfect summer complexion.

A leading popular priced store with a chain has assembled all of its various hand lotions and creams on one table, where price cards indicate the cost, and where a woman may study the offerings and make her own selection. The idea increased sales.

When a woman selects a hand cream these days many of the Middle Western stores are following out a policy of building a one item sale into a respectable book for the salesperson. Nail cream and polish is shown (and the red tones rather than the rose effects are having a wide sale due to the fact that they blend with more apparel). It used to be a rule to match one's lip-stick to the apparel but today this rule must also be applied to nail polish, for certain tones appear to change color when worn with black and are a wash-out in tone value. The new complete manicure outfits are fast movers. With buffers back in stock these are being pushed as an added sale.

Now that the travel bug is again beginning to move, and travel shows are being opened for those who go places, kits to please the armchair traveller are appearing.

These are featured by various firms, packed with well known items for travel comfort and ease in handling. One firm has put out a deodorant in stick form that is about the size of a fat fountain-pen and it is having excellent reception for its ease in packing and also for the lightness of the container.

DRAM SHOPS

With the increased allocation of perfumes a number of stores are returning to the sale of dram perfumes. Some of the drug chains are also making preparation for this type of sale. Purveyors of the finer blends decry this, at a time when the public seems to be so well heeled.

These men opine—and many of them are leading buyers — that a packaged item is more important in sale today than a dram, and suggest that stress be placed on this type of presentation. Women retort that the only reason a package sells to a woman is that the package itself appeals and the name makes a hit. To this type of consumer contents are the least important part of the purchase. Women buyers keeping tab on packaged selling brands state that about 20 perfumes are the ones on which business is done and these have national advertising and gay names to suggest the fulfillment of a woman's dream—whatever it may be.

A Report on the Perfume Industry in Grasse

by OUR GRASSE CORRESPONDENT

DATED January, 1946. Ed.—We had an excessively rainy month during December. January, on the other hand, was cold and dry. The temperature remained almost constantly at 0 deg. or below during the mornings—to go to 26 deg. toward the middle of the day. Snow made its appearance on the night of the 17th to 18th, and the mountains surrounding Grasse are still covered with it at the moment these notes are written.

Naturally, the country is profiting by these conditions. In the rose fields, the first harvest is being carried out. The rose bushes have been slashed and twisted. In many cases, roots have been torn out and exposed in the jasmin plantations. Meanwhile, nearly the total amount of cultured florals have been undisturbed so far. Only the mimosa is beginning to show its beautiful clusters of yellow, and the harvest will begin shortly before that of cassia.

One knows nothing yet about perfumery needs, the importance of the harvest, or of the prices which will be paid. Mimosa, which is actually in little demand, maintains its price of Frs. 10,000, for absolute. Cassia, much more rare, and sought after, has reached Frs. 70,000, and is still going up, because the genuine product evidenced a considerable rise and actual quotations on the concrete have been made at Frs. 80,000.

DOMESTIC MARKET RISE

The recent range of the franc, based on pounds and dollars, has resulted in making some essential oils rise in the domestic market. It is thus that lavender, which was approximately Frs. 2,200, has passed Frs. 3,000. Lavandin, which was on the market at Frs. 550, is now found, with difficulty, at Frs. 1,000 per kilo. The other aromatic products have varied little. As for all the imported essential oils, gaps with the prices quoted in November are marked, and the demand has been either reduced or cancelled.

EARLY NORMALITY UNSEEN

Orders from abroad do not appear to have brought a renewal of business as yet. The most consistent demands are those from Belgium and Switzerland. New York is making heavy demands on this market. As for London, certain products are still under Government control. We do not see any sign of an early resumption of normal business.

Concerning the market prices, the highest quotations on aromatic products of this country or its colonies at the present time are:

Essence Aspic (domestic)	Frs. 650
Essence Cyprès	Frs. 1,100
Essence Clove	Frs. 225
Essence Hysope	Frs. 7,000
Essence Lavandin	Frs. 300
Essence Lavender 40/42%	Frs. 2,500
Essence Lavender 48/50%	Frs. 3,000
Essence Mint (domestic)	Frs. 8,000
Essence Rosemary	Frs. 550
Essence Thyme	Frs. 850

Offers received from the source of supply for importation are fixed at:

Civet	30 per ounce
Gum incense	300 per ton
Essence santal	15 per kilo
Essence Rose Bulgarian	1,400 dollars per kilo

War Assets Corporation Speed-Up

THE War Assets Corporation is to go through a speed-up this month in the disposal of surpluses. This action is to be effected through the delegation of more authority to regional offices and the streamlining of administration. Previously, numerous bottlenecks had been encountered, and it is to avoid these that the change-over is being made.

Up to this time many large sales have been held up awaiting approval from the Central Surplus Office in Washington. Under the new system regional officers are to be given greater authority and to be permitted more latitude in the exercise of judgement. Close liaison is to be maintained and is to be carried on between the central and regional offices while the new system is being put into motion.

Merchandise will continue to be disposed of through normal trade channels. It is required by law, and according to the WAC, it is the best way to get wide distribution. A plan is afoot to extend credit over a wide range of goods. Site sales will be encouraged as experimentation has indicated that this method is satisfactory.

An attempt will be made to eliminate paper work wherever possible. This is apparently one of the reasons for encouraging the increase in site sales.

The Surplus Property Administration, Reconstruction Finance Corporation, Smaller War Plants Corporation, and some field offices of the Department of Commerce dealing with surplus property are to merge to simplify operations. Previously, buyers had been confused as to which agency to contact, and decisions often had to await coordination among various agencies. The consolidated group will be known as the War Assets Administration.

There are likely to be four major divisions, of which consumer goods is of most interest to this industry. Of less interest are: Capital and producers goods (also including raw materials), and real estate and property. The main divisions will be broken down into sections and subsections to cover particular problems.

Survey of Recent Cosmetic Patents

Registered Agent before the U. S. Patent Office discusses U. S. and foreign patents . . . Any inquiries relating to patents and trade marks will be met with prompt attention

by I. J. FELLNER, PH.D.

Musk product. B. T. Bush Co., New York N. Y. *Canadian 429,536, August 21, 1945.* An odoriferous cyclic ketone is prepared by extracting the musk glands of the muskrat with an organic solvent, saponifying the extracted material selectively dissolving the product in mixed aqueous and water immiscible organic solvents and separating the solvent layers, and effecting dehydrogenation of the high cyclic alcohols contained in the organic solvent layer. The so-produced material has a musk-like odor, is an optically active mixture composed mainly of cyclic ketones and has a boiling range of 125 to 145 deg. C. at 1 mm Hg.

Cosmetic Powder, Dentifrice and Similar Articles. Cosmetische Laboratoria, Florimont, Maastricht, Holland. *Belgian 443,788, Dec. 10, 1942.* The products are treated with ozone or ozonized air.

Skin and hair cosmetics. Torben Emil Neesgy, Norway. *French 883,403, July 5, 1943.* A polythionic acid with more than 5 sulphur atoms is neutralized with calcium, zinc, copper, aluminum, or similar inorganic or organic bases such as triethanolamine. The compound is further added with a wetting agent such as igepon or sulfonated fatty alcohol and a perfume.

Vulcanized fatty oil emulsions. Laszlo Auer, South Orange, N. J. *U. S. 2,382,532, August 14, 1945.* A stable oil-in-water dispersion of a vulcanized fatty oil, containing methyl cellulose and another surface active agent which reduces the surface tension of the oil-water interface, the methyl cellulose constituting a minor amount and not substantially more than about 2 per cent in relation to the oil.

Detersive composition. Colgate Palmolive Peet Co., Jersey City, N. J. *Canadian 428,368, June 26, 1945.* A detergent composition comprises 40 to 60 per cent of a water soluble soap, about 40 to 50 per cent of a neutralized sulphonate obtained by extracting mineral oil with a solvent and sulphonating the extract while it is dissolved in liquid sulphur dioxide, and about 10 to 40 per cent of a water soluble salt of a phosphoric acid, e.g., sodium salt of the tetraphosphoric, pyrophosphoric or metaphosphoric acid.

Water-softening and washing product. L. Meites, Chicago, Ill. *U. S. 2,385,928, Oct. 2, 1945.* A mixture of crystalline trisodium phosphate and phosphorous pentoxide in a molal ratio of from approximately 2 to 3 phosphate to 1 oxide is heated at a temperature of at least 300 deg. C, but below the temperature of disintegration of the desired reaction product for a period of time sufficient to substantially complete the reaction.

Solvents for Perfumes. Bata A. G., Zlin, Bohemia-Moravia. *Belgian 446,641, May 7, 1943.* Compounds of the formula (R_1, R_2) CH:C (XR_3), wherein X represents halogen, R_1, R_2 and R_3 are hydrogen, alkyl, aryl or aralkyl radicals, are treated with sulfuric acid or aromatic sulfonic acids.

Soap manufacture. Laszlo Auer, South Orange, N. J. *U. S. 2,382,530, August 14, 1945.* A solid soap from fatty oils and fats is prepared by heating a batch of fatty material in the presence of anhydrous crystal-water free sodium carbonate to between 150 and 350 deg. C., the sodium carbonate being present in an amount at least sufficient to effect approximately complete saponification, and the heating being effected under conditions maintaining the released carbon dioxide in intimate contact with the surface of the batch.

Hand cleansers. Cities Service Oil Co., New York, N. Y. *U. S. 2,383,610, August 28, 1945.* The composition contains:

Polyvinyl alcohol	4.20 per cent
Mannitol glycerol mono-oleate	3.10 per cent
Tetra sodium pyrophosphate	0.01 per cent
Trisodiumphosphate	0.05 per cent
A monoalkyl derivative of a phenol monosulfate	0.12 per cent
Cresylic acid potassium coconut oil soap mixture	0.91 per cent
Water	91.60 per cent

Treating fatty glycerides. Colgate-Palmolive-Peet Co., Jersey City, N. J. *U. S. 2,383,633, August 28, 1945.* A fatty glycerine is reacted with a monohydric alcohol having 1 to 6 carbon atoms per molecule in the presence of an alkaline alcoholysis catalyst. The so-produced liquid body containing esters, glycerine and unreacted alcohol is freed from the latter by volatilization, the residue is acidified and the esters are separated from the glycerine.

Technical Abstracts from Scientific Literature

These brief abstracts listed provide a convenient key to current scientific literature of the world on perfumes, cosmetics, soaps, dentifrices and other preparations

Esters of p-hydroxybenzoic acid as preservatives. C. P. Neidig and H. Burrell. *Drug. Cosmetic Ind.* **54**, *408-10, 1944.* An extensive review in which it is shown that the esters of benzoic and salicylic acids exert a weaker preservative action than the acids, whereas the esters of p-hydroxybenzoic acid are more effective than the free acid; the larger the alkyl group the greater the inhibiting action; these esters are 2-3 times as effective as benzoic acid, the Me ester is more effective against molds and the Pr ester against yeasts. Toxicity studies, applications in cosmetic preservation such as in creams, lotions, gums, hair-waving fluids, soaps, preservation of pharmaceutical lotions, as eye washes, hydrogen peroxide medicinals, urine, food preservation, textiles, gelatin and glue analytical studies, physical characteristics, methods of incorporation, the sodium salts are reported. (Through *C. A.*, **38**, *3413-4, 1944.*)

Two first-class recipes for depilatories in paste form. *Jaroslav Hojka. Casopis Mydlar Vonavkar*, **21**, *20, 1943; Chem. Zentr., 1943, I, 2248.* One such paste is compounded of strontium sulfate 60, wheat starch 15, pure zinc oxide 15, lithium carbonate 8 and Japanese method 2 g. The other is similar in composition. A layer of the paste 1-2 mm thick is left on the skin 10-20 minutes and then removed with an aqueous solution containing borax, alcohol and perfume. (Through *C. A.*, **38**, *4380-1, 1944.*)

Lavender essence. *Establissements Antoine Chiris. Bull. soc. chim.* **10**, *454-60, 1943.* The essence was obtained by distillation with steam of "Lavandula Delphimensis." The analysis of the components soluble in sodium bisulfite yielded the following percentages: 2-furaldehyde (traces); butyraldehyde 0.01; isovaleraldehyde 0.02; hexenal 0.016; caprylaldehyde 0.03; citronellal 0.016; capraldehyde 0.028; citral 0.016; cumaldehyde 0.028. The following components are soluble in sodium carbonate solution: acetic acid 0.003; butyric acid 0.002; isovaleric acid 0.0007; caproic acid 0.0037; capric acid 0.0025; coumarin 0.04; thymol 0.005; eugenol 0.005 per cent. (Through *C. A.*, **38**, *3413, 1944.*)

Recent advances in cosmetic materials. IV. Nail varnishes and removers: cuticle creams: deodorants. C. B. Holliday, *Perfumery Essent. Oil Record*, **34**, *196, 1943.* The author discusses nitrocellulose and resins, solvents, plasticizers and colorings used and nail varnishes and removers. The various types of deodorants are also discussed. (*Through J. A.Ph.A.*, **33**, *238, 1944.*)

The harmfulness of paraffin- and petrolatum-containing preparations. E. O. Schoch. *Monatschr. Krebsbekampf.* **11**, *31-3, 1943; Chem. Zentr. 1943, I, 2306.* In regard to the possible cancer-producing effect of mineral oils and fats when allowed to act for a long time, S. reports on a personal observation, in which after more than 10 years' daily use of brilliantine on the scalp, many small tumors arose, later also on other parts of the body, which did not come in contact with the medium. After leaving off the causative agent all the swelling receded in 3 to 4 weeks without residue. On extended external and especially internal use of paraffin- and petrolatum-containing preparations caution is, therefore, indicated. (Through *C. A.*, **38**, *4307-8, 1944.*)

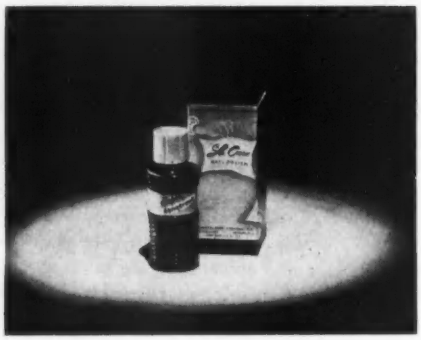
Condensation of primary aliphatic aldehydes. *U. S. 2,345,138.* Primary aliphatic aldehydes of 3-6 C atoms are condensed in the presence of alkaline earth metal carbides, which may be combined with alkaline earth metal hydroxides (e.g., CAC_2 alone or CaC_2 with CAO or BaO), in a stirring apparatus equipped with a reflux condenser. The mixture is heated at 120-40 deg. for approximately 4 hours, then cooled, acidified and fractionated. Aldehyde mixtures are often used as starting materials and the resulting 1, 3-glycol half-esters are used as softeners and solvents in the lacquer industry. Examples: ethylhexanediol and its butyric acid ester from butyraldehyde, substituted propanediol and its caproic acid ester from caproaldehyde hexanediol, its butyrate and a substituted acrolein from butyraldehyde, etc.

Prevention of oxidation of organic substances. *British 552,809.* A small proportion of hematoxylin is added to organic substances to prevent or retard oxidation. Particularly is this effective in preventing oxidation of vitamin A, carotene, fats, fatty acids, linoleic acid or its ester or linseed oil.

The constitution of irone. A. Muller. *Deut. Parfum. Ztg.*, **28**, *137, 1942; Chem. Zentr., 1943, I, 2542.* Pure commercial irone, iris oil prepared carefully from iris root, and a-ionone do not give the EM reaction (*C. A.*, **37**, *2513*). Natural irone has therefore an a-irone constitution corresponding to a-irone. The positive EM reaction of some commercial iris oils can be explained by the presence of B-irone, if no other B-compound was added. (Through *C. A.*, **38**, *4377, 1944.*)

Packaging portfolio

LA CROSS

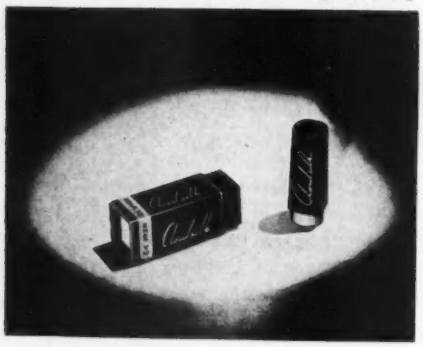


LA CROSS: Slightly Dangerous is La Cross' newest polish shade for Spring. The bottle is the familiar bevelled type, capped in white plastic. Its label is light grey and white. The box is attractive in its combination of pink and grey with red and gold accents.

COURTLEY

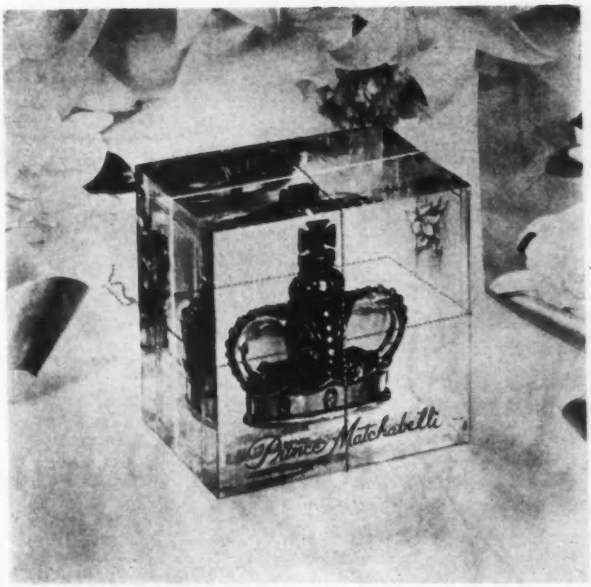
COURTLEY: Courtley Ltd. announces a new line of products called Courtley Gold. The porcelain flagons, characterized by the famous double horse head stoppers are fired in 23-carat gold. Courtley Gold includes after-shave lotion, cologne, men's powder and shaving soap.

CHEN YU



CHEN YU: Chen Yu introduces a new lipstick line created to harmonize with its Cloudsilk make-up. The Cloudsilk lipstick case is of gold metal. A shiny black plastic top fits perfectly over the case and rests on a red metal base. The lipstick is presented in a black and red slide box.

PRINCE MATCHABELLI



PRINCE MATCHABELLI: In time for Easter giving, Prince Matchabelli has created a new setting for his gold-encrusted crown bottle. The bottle is imprisoned in two squares of crystal-clear lucite tied with a gold cord. Embedded in an upper corner is a small nosegay of three plastic flowers—gardenia, lily and carnation — representing the three perfume scents so packaged.

MILKMAID

MILKMAID: Milkmaid's companion pieces for Beauty in Three Acts are cleansing milk and emulsion, paired in a kit called the Milkmaid Miniature. The white jars are attractively presented in a dainty white box with pink and blue sprigs.

LEIGH: Leigh Perfume Miniatures consist of four one-third fluid dram bottles of Risque, Heartbeat, Dulcinea and Poetic Dream. They are packaged in a pocket-size white container with a cerise and gold background window arrangement.

LEIGH

HERB FARM SHOP: The first compact sold exclusively by Herb Farm is made with a real jeweler's touch. It is styled in gold color metal with a scalloped edge. The Herb Farm Shop wreath is engraved on the powder door. The compact is slim but spacious, with a deep powder well, a sturdy catch, large mirror and has its own flannel case. It comes in a blue and gold gift box.

HERB FARM SHOP

SOAPS

Fatty Acids in Manufacturing Potash Soaps

During the past few years many wartime regulations gave the potash soap manufacturer no choice but to use fatty acids

by DALE V. STINGLEY

JUST how much thought the Potash Soap Industry has given to the advantages of fatty acids beyond the fact that they were a source of fat to keep their plants going I do not know, because during the war costs were often not considered. But certainly it has never had a better opportunity to evaluate them.

During the past few years many wartime regulations either directly or indirectly gave the potash soap manufacturer no choice but to use fatty acids. As a result of this his greatest hardship was usually where to get fatty acids, and this has been a problem for many other users as well because it was a physical impossibility for the Fatty Acid Industry to meet all the wartime demands placed upon it. The fatty acid situation is still tight, but production is showing improvement as new equipment and needed replacements eliminate plant bottlenecks.

This does not mean that fatty acids will be plentiful in the near future, because it takes more than fatty acid equipment to correct a serious worldwide shortage of fats and oils for, as you all know, the raw materials from which fatty acids are made are fats and oils.

FACTORS ON FATTY ACIDS USE

However, to get back to the subject of fatty acids in potash soap there are many factors which must be considered in determining whether or not it is advantageous to use fatty acids and since it is almost always a question of whether fatty acids or fats and oils will be used, the problem narrows itself down to a comparison of the advantages and disadvantages of fatty acids versus fats and oils.

In our opinion, the major factors to be considered can be outlined as follows: (1) Market price of fatty acids versus fats and oils; (2) Soap yields of fatty acids versus fats and oils; (3) Processing time of fatty acids versus fats and oils; (4) Control of finished soap made with fatty acids versus fats and oils.

There are other less tangible benefits which could be considered since fatty acids make it possible for a potash soap manufacturer to produce a much wider line of products with little if any additional equipment, but for the present, discussion of the four factors enumerated above are most significant.

USED IN PLACE OF WHALE OIL

It is possible to draw up a simple chart comparing the cost of soap made with fatty acids versus fats and oils, but this, to be exact, would have to be drawn up separately for individual operators since in it must be incorporated labor, overhead, and other costs which are not necessarily constant for all firms.

Comparisons of raw material costs can be made easily, as for example, soybean fatty acid versus soybean oil. In this case eighty-eight pounds of fatty acid will produce one hundred pounds of anhydrous soap (100 lbs. F.A. = 113.5 lbs. KOH soap) while ninety-two pounds of soybean oil are required (110 lbs. oil = 108.5 lbs. KOH soap). Therefore, to determine the comparative value of soybean fatty acid versus soybean oil we apply the factor 88/92 times the price of fatty acids to determine the price oil should be to produce soap at the same raw material cost.

Soybean fatty acid at the current price of 11¢ per pound in tank cars

* This paper was presented at a meeting of the Association of American Soap & Glycerine Producers, Inc.

is equivalent to 10½ soybean oil (88/92 x 11 = 10/52). This comparison, though gives only part of the picture since it does not consider other major factors involved. Labor and overhead, which are a substantial portion of costs, are generally based on the hours of labor and the number of hours equipment is used. In an eight hour day two and often three batches of fatty acid soap may be produced. Say three hours per batch on the average. Oils take longer. Generally it is not possible to finish two batches in less than ten hours, or five hours per batch.

Taking some figures for labor and overhead out of the air, for comparative purposes only we can figure the cost of a 50 per cent potash jell soap made from fatty acids versus oil at the same price level.

Soybean Fatty Acid 44# @ 11¢	= $4.84
Caustic Potash 8.8# @ 7¢	= .62
Labor 3 hrs. @ $1.00 (5000# batch)	= .06
Overhead 3 hrs. @ $1.50 (5000# batch)	= .09
Total Cost cwt.	$5.61

Soybean Oil 46# @ 11¢	= $5.06
Caustic Potash 8.8# @ 7¢	= .62
Labor 5 hrs. @ $1.00 (5000# batch)	= 0.10
Overhead 5 hrs. @ $1.50 (5000# batch)	= 0.15
	$5.93
	5.61
Savings with fatty acid cwt.	$0.32

A savings of $0.32 per cwt. by the use of fatty acids amounts to $16.00 on a 5000 pound crutcher and in the face of this, fatty acids at the same price as oils are worth money to any potash soap manufacturer.

CONTROL OF SOAP CONTENT

Most potash soap manufacturers who sell a soap with 50 per cent potash soap content actually give soap away since they play safe and finish their soap on the high side, sometimes as much as 1 or 2 per cent. Others simply guess at the soap content of their products, but users of fatty acids find it a very easy matter to control their finished soap content by a simple titration to determine the amount of water, caustic or additional fatty acids to add.

The example we have given was based on the use of fatty acids in a 50 per cent jell soap where the major part of the processing time is taken up in clearing the soap. If we consider liquid soaps the crutcher time need not be more than the time it takes to fill the crutcher with hot water, run in fatty acids, neutralize with caustic and empty the crutcher.

SAPONIFICATION OF FATTY ACIDS

Where equipment is at a premium, fatty acids step up capacity, in some cases unbelievably. I have been told quite reliably that during the war one manufacturer turned out millions of pounds of a granulated type soap for government contracts by the use of fatty acids with only two crutchers. Mixing time in the crutchers was reduced to only four minutes, which is entirely possible since fatty acids saponify instantly.

Aside from the cost angle, another valuable advantage of fatty acids is that they offer the soap maker a wide choice of raw materials for special products, and this applies both to the fatty radical and to the alkali used in saponification. Triethanolamine, ammonia, calcium, magnesium and other mild alkalis, as well as caustic potash and caustic soda, react rapidly with fatty acids. This is of real importance to the potash soap manufacturer who wishes to make special products such as dry-cleaning soaps, shampoos, lubricants, wire drawing soaps, etc.

FRACTIONATED FATTY ACIDS

The fatty radical, as we all know in these days of coconut oil scarcity, has a lot to do with the properties of a finished soap and so far we have considered fatty acids as equivalent only to fats and oils in their general properties. This is true if we think of mixed fatty acids such as soybean, corn oil, linseed, coconut, cottonseed, etc., but there are also available fractionated fatty acids which make possible entirely new types of soap.

Fractionated fatty acids do not necessarily mean pure fatty acids or those containing essentially one component, since the fractional distillation process can be and is used to produce controlled mixtures of fatty acids often more valuable in the soap field than pure acids or the original natural mixtures.

This fact is easily understood since the soap industry commonly uses coconut oil to promote sudsing at low temperatures and adds tallow to withstand higher temperatures and modify the undesirable characteristics of coconut oil alone.

Fractionated acids such as Neo-Fat 3 and Neo-Fat 3-R containing oleic and linoleic acid and Neo-Fat S-142 and Neo-Fat D-142 fractionated from tall oil and containing the same acids plus a small amount of rosin acids have made it possible to supplement coconut oil in producing liquid soaps as well as making top quality jell soaps.

Pure acids such as lauric, myristic, palmitic and stearic acids, each with its own unique set of properties, are being used either alone or with other fatty acids or oils to manufacture special products in both the retail and industrial fields to meet unusual or critical requirements.

Some of these special acids are no higher in price than standard mixed fatty acids, although at the present time a few are not available because the fatty acid manufacturer cannot get the necessary raw materials. However, as times improve, they will be available again and their advantages will be even greater.

No Increase in Soap

Roscoe C. Edlund, manager of the Association of American Soap and Glycerine Producers has announced sales census figures on soap.

During 1945, deliveries of soap other than liquid, reported by 61 manufacturers representing approximately 90 per cent of the entire production, totalled 2,872,131,000 pounds, or 12.6 per cent less than in 1944, due to the shortage of fats. In 1946 thus far, the restrictions on fats for making soap are the same as they were at the close of 1945.

The aggregate sales value of deliveries reported for 1945 was $405,-134,000, a decline of nearly 9 per cent from the previous year.

FLAVORS

Imitation Vanilla Flavor

Year after year imitation vanilla extract holds a leading place as a flavor component industrially as well as for home use

by MORRIS B. JACOBS, PH.D.
Adjunct Professor of Chemical Engineering, Polytechnic Institute of Brooklyn

IT was stressed in a previous article that the principal flavors used are vanilla, lemon, and orange. A substantial portion of the vanilla-type flavoring employed both on a commercial scale and also in the home is imitation vanilla extract and other imitation vanilla flavorings. The reason for this is not difficult to surmise for it depends upon a flavor appeal that has been built up by years of use.

BASIC COMPONENTS

Imitation vanilla extracts are compounded with five or six basic components. These are generally vanillin, coumarin, alcohol, glycerol, sugar sirup, water and coloring. Some imitation vanilla flavorings are prepared without alcohol. Others contain no glycerol, or the glycerol is replaced by a solvent such as propylene glycol. Sometimes sugar is used instead of sirup and the sugar is dissolved directly in the water to make the sirup.

In natural vanilla, the resins are a principal flavor factor. Since imitation vanilla does not contain these resins, other modifiers, principally coumarin, are used. Coumarin is not a normal component of true vanilla extract but if it were completely omitted from imitation extracts, they would taste even less like the natural product.

The greater the proportion of vanillin in relation to the amount of coumarin present in an imitation vanilla extract, up to an extent governed by the conditions of the preceding paragraph, the finer the flavor. However, many prefer the somewhat harsher flavor given to some vanilla extracts by increasing the coumarin content. The customary ratio of vanillin to coumarin used is 5:1.

Table I and II tabulate formulas for the preparation of imitation vanilla extracts and flavors. These cover almost every possible use of imitation vanilla extracts, that is for use in bakery products, confectionery, beverages, ice cream, etc., Formulas are included in which alcohol is employed and others are detailed in which no alcohol is used. Some formulations are suitable for use in baking but not

TABLE I
Imitation Vanilla Flavor Compositions

Component																		
Vanillin	15.0	9.4	7.5	7.2	6.6	6.6	6.0	5.9	5.3	5.2	4.5	4.4	4.4	4.2	3.7	3.7	3.7	1.5
Coumarin	3.7	2.1	0.1	3.6	1.6	0.4	0.9	5.9	1.9	0.7	1.7	2.2	0.7	1.1	0.9	1.9	1.9	1.5
Sirup	124.9	85.6*			87.4*	126.3	60.2	98.4	109.7	95.3*	112.4*	98.4	89.1*	100.7*	123.0	62.5	112.7*	98.4
Glycerol			45.0	129.9		126.3	60.2		109.7									
Alcohol	249.7	196.5	37.5		145.9	202.0	85.3	197.0	219.5	295.2	56.8	98.3	295.2	70.6	61.5		61.5	73.4
Water	605.7	696.5	900.9	848.3	747.4	538.4	788.5	688.8	552.9	588.6	754.2	780.7	594.6	804.4	787.2	924.7	801.5	814.2
Caramel		8.9	10.0	10.0	9.1	***	1.9	**	**	**	7.4	**	**		7.7	6.2	7.7	**
Vanillin Coumarin Ratio	4:1	4.4:1	75:1	2:1	4:1	16:1	6.7:1	1:1	3:1	8:1	2.5:1	2:1	6:1	4:1	4:1	2:1	3:1	1:1

* Sugar
** Color to suit
*** Cudbear color

TABLE II

Concentrated Imitation Vanilla Flavors*

Component							
Vanillin	85.0	60.0	55.5	54.0	52.0	42.0	42.0
Coumarin	18.0	20.0	18.5	27.0	17.0	11.0	14.0
Alcohol	457.0	250.0	230.0	780.0		210.0	
Glycerol		670.0	580.0	111.0	931.0	470.0	770.0
Caramel			116.0	28.0		267.0	174.0
Sugar	95.0						
Water	345.0						

*One pint of these concentrated vanilla flavors will produce two gallons of imitation vanilla extract when mixed with sufficient warm water.

in the preparation of ice cream while others are particularly useful for ice cream but not for bakery products.

PREPARATION

In general, to prepare an imitation vanilla extract the vanillin and coumarin are dissolved in the alcohol. The sugar or sirup and caramel are dissolved in the water and both solutions are mixed. It is customary to permit the mixture to stand a few days before filtering and bottling. The sirup used may be prepared by dissolving the sugar in the ratio of 24 ounces in sufficient water to make a quart of sirup.

If a white vanilla flavor is desired as for instance vanilla which is to be used in the preparation of icings or uncolored ice cream, then the caramel should be omitted but the product should be bottled in green, amber, or brown glass to protect it from strong light which may cause deterioration.

FLAVORS WITHOUT ALCOHOL

The following is an illustration of an imitation vanilla flavor in which a solvent other than alcohol and glycerol are used:

Vanillin	1.5 oz.
Coumarin	.25 oz.
Monoethyl glycerol[1]	10.0 fl. oz.
Caramel coloring	1.0 fl. oz.
Water q. s.	1.0 gal.

RELATIVE FLAVOR STRENGTH

Much work has been done on the relative flavor strength of standard vanilla extract as compared with vanillin, and other materials, employed at times in place of vanillin, such as ethyl vanillin and piperonal. These are detailed in Table III.

MIXED VANILLA & VANILLIN FLAVORS

By use of these ratios it is relatively simple to prepare formulations that can properly be termed "Vanilla and Vanillin Flavor."[2] A processor can make such a product equal in flavoring strength to a standard vanilla extract by mixing one gallon of vanilla extract, equivalent to 13.35 ounces of vanilla beans per gallon, and one gallon of 0.7 per cent vanillin solution, equivalent to 0.93 ounce of vanillin per gallon. To obtain a double-strength product dissolve 0.93 ounce of vanillin in one gallon of standard vanilla extract. For still higher concentrations, it becomes necessary to employ a concentrated vanilla extract or a vanilla oleoresin, otherwise an adequate proportion of real vanilla will not be maintained.

According to the Food and Drug Administration,[2] at least 50 per cent of the total flavor of a product labeled as "Vanilla, Vanillin and Coumarin Flavor" should be obtained from true vanilla. Consequently not more than 50 per cent should be derived from the use of vanillin and coumarin. To make two gallons of such a mixture, add one gallon of a vanillin and coumarin solution to one gallon of standard vanilla extract. The amount of vanillin and coumarin used to prepare the equivalent 0.7 per cent vanillin solution will depend upon the vanillin-coumarin ratio used. As mentioned, the customary ratio is 5:1 but other ratios such as 8:1 or 3:1 may be employed. Table IV gives this data.

TABLE III

Vanilla Flavor Ratios

1 part vanilla beans	= 0.07 part vanillin
1 pound vanilla beans	= 1.125 oz. vanillin
A standard vanilla extract	= 0.7 per cent vanillin solution
1 part coumarin	= 3 parts vanillin
A standard tonka extract	= 0.3 per cent vanilla solution
1 part piperonal (heliotropin)	= 2 parts vanillin
1 part bourbonal (ethyl vanillin)	= 3 to 4 parts vanillin

TABLE IV

Ratio Vanillin:Coumarin	Vanillin oz/gal.	Coumarin oz/gal.
8:1	0.650	0.082
6:1	0.600	0.100
5:1	0.560	0.112
4:1	0.516	0.128
3:1	0.448	0.150

For double strength products of this type dissolve twice the quantities given in Table IV per gallon of standard vanilla extract. Artificial color is not permitted in a product labeled "Vanilla, Vanillin and Coumarin Extract."

BOURBONAL IN IMITATION VANILLA

As noted in Table III, 3 or 4 parts of vanillin may be placed by one part of bourbonal. A typical illustration of an imitation vanilla flavor concentrate containing ethyl vanillin is the following formulation:

Component	*Parts*
Vanillin	80
Bourbonal	20
Coumarin	3
Alcohol	440
Water	457
	1000

VANILLIN FLAVORED ESTER MIXTURE

A vanillin flavored ester mixture can be prepared using the common flavoring esters as follows:

Component	*Parts*
Ethyl acetate	500
Isoamyl acetate	250
Ethyl enathate	85
Vanillin	80
Eugenol	40
Cinnamaldehyde	30
Cardamon oil	15
	1000

[1] F. E. Stoeckenbach. U. S. Patent 2,180,932. Nov., 1939.

[2] U. S. Food Drug Admin., *Flavoring Extracts*, June, 1941.

Flavored Notes

In purchasing certified dyes, one should always note the pure dye percentage. An apparently less expensive color may prove to be actually a more expensive color if the cost is recalculated to a pure dye basis.

* * *

In contradistinction to a flavor extract which must contain alcohol, a flavor essence may be defined as a solution of a flavor ester mixture or other flavoring component in an appropriate solvent.—*M.B.J.*

FLAVORS

Imitation Vanilla Flavor

Year after year imitation vanilla extract holds a leading place as a flavor component industrially as well as for home use

by MORRIS B. JACOBS, PH.D.
Adjunct Professor of Chemical Engineering, Polytechnic Institute of Brooklyn

IT was stressed in a previous article that the principal flavors used are vanilla, lemon, and orange. A substantial portion of the vanilla-type flavoring employed both on a commercial scale and also in the home is imitation vanilla extract and other imitation vanilla flavorings. The reason for this is not difficult to surmise for it depends upon a flavor appeal that has been built up by years of use.

BASIC COMPONENTS

Imitation vanilla extracts are compounded with five or six basic components. These are generally vanillin, coumarin, alcohol, glycerol, sugar sirup, water and coloring. Some imitation vanilla flavorings are prepared without alcohol. Others contain no glycerol, or the glycerol is replaced by a solvent such as propylene glycol. Sometimes sugar is used instead of sirup and the sugar is dissolved directly in the water to make the sirup.

In natural vanilla, the resins are a principal flavor factor. Since imitation vanilla does not contain these resins, other modifiers, principally coumarin, are used. Coumarin is not a normal component of true vanilla extract but if it were completely omitted from imitation extracts, they would taste even less like the natural product.

The greater the proportion of vanillin in relation to the amount of coumarin present in an imitation vanilla extract, up to an extent governed by the conditions of the preceding paragraph, the finer the flavor. However, many prefer the somewhat harsher flavor given to some vanilla extracts by increasing the coumarin content. The customary ratio of vanillin to coumarin used is 5:1.

Table I and II tabulate formulas for the preparation of imitation vanilla extracts and flavors. These cover almost every possible use of imitation vanilla extracts, that is for use in bakery products, confectionery, beverages, ice cream, etc., Formulas are included in which alcohol is employed and others are detailed in which no alcohol is used. Some formulations are suitable for use in baking but not

TABLE I
Imitation Vanilla Flavor Compositions

Component																		
Vanillin	15.0	9.4	7.5	7.2	6.6	6.6	6.0	5.9	5.3	5.2	4.5	4.4	4.4	4.2	3.7	3.7	3.7	1.5
Coumarin	3.7	2.1	0.1	3.6	1.6	0.4	0.9	5.9	1.9	0.7	1.7	2.2	0.7	1.1	0.9	1.9	1.9	1.5
Sirup	124.9	85.6*			87.4*	126.3	60.2	98.4	109.7	95.3*	112.4*	98.4	89.1*	100.7*	123.0	62.5	112.7*	98.4
Glycerol			45.0	129.9		126.3	60.2		109.7									
Alcohol	249.7	196.5	37.5		145.9	202.0	85.3	197.0	219.5	295.2	56.8	98.3	295.2	70.6	61.5		61.5	73.4
Water	605.7	696.5	900.9	848.3	747.4	538.4	788.5	688.8	552.9	588.6	754.2	780.7	594.6	804.4	787.2	924.7	801.5	814.2
Caramel		8.9	10.0	10.0	9.1	***	1.9	**	**	**	7.4	**	**		7.7	6.2	7.7	**
Vanillin Coumarin Ratio	4:1	4.4:1	75:1	2:1	4:1	16:1	6.7:1	1:1	3:1	8:1	2.5:1	2:1	6:1	4:1	4:1	2:1	3:1	1:1

* Sugar
** Color to suit
*** Cudbear color

TABLE II

Concentrated Imitation Vanilla Flavors*

Component							
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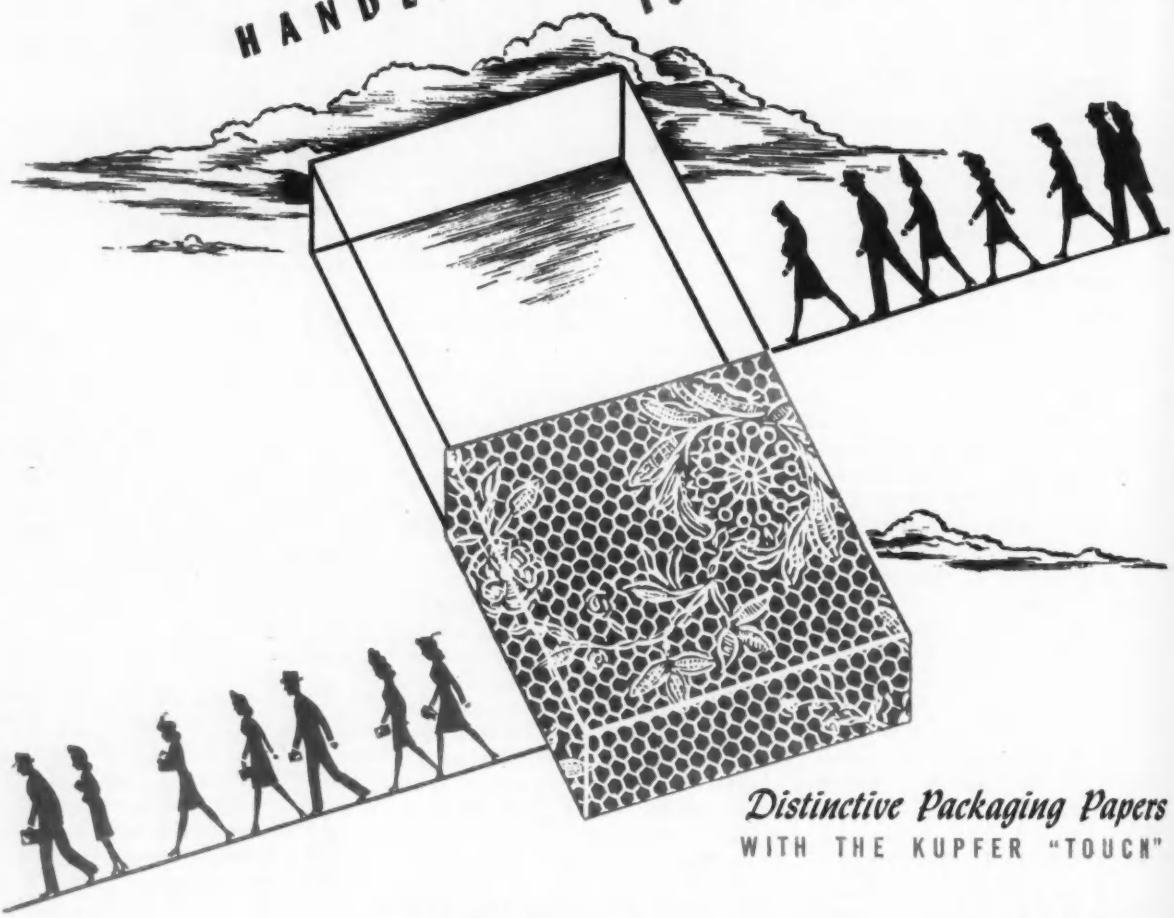

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Factors Influencing Butter Flavor

The flavor of butter is largely determined by the flavor of the cream from which it is churned

by F. J. BABEL

Dairy Industry Department, Iowa State College, Ames, Iowa

THE flavor of butter is determined largely by the flavor of the cream from which it is churned. When manufactured from high quality sweet cream without added culture, or other flavoring materials, the resulting butter has a pleasant but mild flavor. The addition of highly flavored culture to such sweet cream results in butter with a distinct flavor and definitely distinguishes it from butter made without culture. The amount of flavor derived from the use of a butter culture can vary considerably and depends upon the selection of the culture and the method of preparing the culture.

BUTTER CULTURE COMPOSITION

Butter cultures are composed of two types of microorganisms; the lactic acid type represented by *Streptococcus lactis*, and the flavor type represented by *Streptococcus citrovorus* or *Streptococcus paracitrovorus*. *S. lactis* ferments lactose and produces largely lactic acid. *S. citrovorus* or *S. paracitrovorus* ferments citric acid with the production of diacetyl, acetylmethylcarbinol, volatile acids and carbon dioxide.

The function of *S. lactis* in a butter culture is to produce lactic acid and thereby establish a favorable pH for the production of flavor compounds (diacetyl, acetylmethylcarbinol, and volatile acids) by the citric acid fermenting streptococci. Lactic acid is a non-volatile acid which is odorless, so that it cannot affect the aroma of butter culture although it is largely responsible for the acid taste. The function of the flavor-type organism is to produce the compounds responsible for the characteristic butter culture flavor; the most important of these being diacetyl. Diacetyl ($CH_3.CO.CO.CH_3$) is a diketone which has a high aroma and affects the flavor of butter culture even when present in a very small amount. In low concentrations, diacetyl has a pleasing aroma which definitely suggests the aroma of butter culture; in high concentrations the odor is rather objectionable. Besides diacetyl, the flavor organisms also produce acetylmethylcarbinol, 2,3-butylene glycol, volatile acids and carbon dioxide. Purified acetylmethylcarbinol ($CH_3.CHOH.CO.CH_3$) has no odor; it does have significance in butter culture, however, because it probably is the product from which diacetyl is produced through biological oxidation. 2,3-butylene glycol ($CH_3.CHOH.CHOH.CH_3$) has no odor in pure form; it is produced by a reduction of acetylmethylcarbinol. The volatile acids present in butter culture are acetic and propionic acids; of these, acetic acid is present in considerably greater amount. These volatile acids affect both the flavor and aroma of butter culture. Carbon dioxide affects the flavor of butter culture in much the same way as it affects the taste of carbonated beverages.

ACIDITY OF CULTURE

When the butter culture organisms are grown in pasteurized milk at the usual temperature of 70 deg. to 72 deg. F., the first noticeable change in flavor is a sour taste due to the formation of lactic acid by *S. lactis*. Acid production by this organism continues until approximately 0.8 to 1.0 per cent total acidity, calculated as lactic acid, is produced. At their highest acidity, butter cultures will have pH values of 4.1 to 4.5. Very little acetylmethylcarbinol or diacetyl is present in a butter culture when first inoculated or at a pH of 6.1 or 6.2. When the pH is decreased to 5.0 by the lactic acid producing organisms, measurable quantities of diacetyl and acetylmethylcarbinol are present. As the pH is further decreased to about 4.3, conspicuous increases in acetylmethylcarbinol and diacetyl result. The increase in volatile acids takes place at approximately the same time as the increase in acetylmethylcarbinol and diacetyl; larger amounts being produced at low pH values.

Table 1, taken from data obtained by Michaelian, Farmer and Hammer[4], show the effect of the time of incubation on the acidity, acetylmethylcarbinol plus diacetyl content and volatile acidity of a butter culture. From the values obtained it is evident that the cultures contained only small amounts of acetylmethylcarbinol plus diacetyl during the early stages of ripening, while later conspicuous increases in these materials occurred. Early in the ripening, pronounced changes in either the titrable acidity or pH had comparatively little effect on the amount of acetylmethylcarbinol plus diacetyl present, but later striking increases in the quantity of these products occurred with little or no change in the acidity.

There was a rather close correlation between the increases in acetyl-

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TABLE I

Total Acid, Acetylmethylcarbinol plus Diacetyl and Volatile Acid in Butter Culture During Ripening and Holding

Age	Acidity Ml. N/10 NaOH per 9 gm.	pH	Acetylmethylcarbinol plus Diacetyl (p.p.m.)	Volatile Acid*
0 hours	2.0	6.1	trace	1.7
4.5 hours	3.1	5.5	9.9	3.0
6.5 hours	4.5	5.0	14.1	3.7
7.5 hours	5.5	4.9	13.8	4.8
8.5 hours	6.5	4.6	15.6	5.4
11 hours	7.8	4.4	27.3	7.6
24 hours	9.1	4.1	48.6	10.1
32 hours	9.2	4.1	55.8	10.1
2 days	9.3	4.1	113.7	14.0
3 days	9.2	4.1	210.7	22.5

* Ml. N/10 NaOH required to neutralize 1000 ml. distillate from 250 gm. of culture

methylcarbinol plus diacetyl and in volatile acid.

DIACETYL CONTENT

Because of the importance of diacetyl as a flavor contributant, attempts have been made to increase the diacetyl content of butter culture. One method which has given very satisfactory results is to add a solution of citric acid or sodium citrate to the pasteurized milk and then inoculate with butter culture organisms and ripen in the usual manner. This procedure was suggested by the fact that diacetyl is produced from the citric acid of milk. Milk also contains rather small amounts of citric acid; the average percentage found in mixed herd milk being 0.16 to 0.18.

The effect of added citric acid on the production of acetylmethylcarbinol plus diacetyl and volatile acid was studied by Michaelian, Farmer and Hammer[4]. Results of representative trials are presented in Table 2.

The data in Table 2 clearly show the influence of the addition of citric acid to milk inoculated with butter culture organisms. Large increases in acetylmethylcarbinol plus diacetyl and volatile acids were obtained with all of the cultures tested.

Prill and Hammer[6] state that the addition of about 0.15 per cent citric acid to the milk intended for butter culture is a practical amount. Larger percentages, such as 0.30 per cent, did not give correspondingly higher diacetyl contents.

AERATION OF CULTURE

Another method which has been used to increase the diacetyl content is to agitate or aerate the butter culture. Oxygen is apparently needed to bring about the oxidation of acetylmethylcarbinol to diacetyl. Brewer *et al.*[2] obtained very marked increases in diacetyl contents by growing butter culture under aeration and pressure. Cultures aerated under pressure contained two or more times as much diacetyl as the unaerated control cultures. Prill and Hammer[6] noted that shaking ripened culture (culture held at 70 deg. F. for about 16 hours) resulted in significant increases in diacetyl and lack of aeration caused decreases.

Holding ripened culture at low temperatures, addition of small amounts of citric acid to ripened culture, and production of a low pH in the ripened culture also tend to increase the diacetyl content.

The compounds responsible for the flavor of butter culture can be destroyed by the same organisms that produced them. After the acetylmethylcarbinol and diacetyl content of a butter culture reaches its maximum, a decrease occurs. This decrease is accompanied by an increase in 2,3-butylene glycol. Butter culture generally shows a loss of acetylmethylcarbinol and diacetyl if it is held for too long a time at the ripening temperature. Neutralization of the acid present in the ripened culture also causes the destruction of acetylmethylcarbinol and diacetyl[4]. Cooling the ripened culture to a low temperature and addition of small amounts of citric acid to the ripened culture definitely limit the destruction and in certain instances result in quite significant increases in

TABLE 2

Influence of Added Citric Acid on Production of Acetylmethylcarbinol plus Diacetyl and Volatile Acids by Butter Cultures

Butter Culture No.	Whole Milk			Whole Milk plus 0.2 per cent Citric Acid		
	Acidity Ml. N/10 NaOH per 9 gm.	Acetylmethylcarbinol plus Diacetyl (p.p.m.)	Volatile Acid	Acidity Ml. N/10 NaOH per 9 gm.	Acetylmethylcarbinol plus Diacetyl (p.p.m.)	Volatile Acid
103	8.5	115.2	16.6	9.2	254.1	32.2
122	8.5	113.4	17.0	8.7	210.0	25.5
146	8.6	137.7	18.3	8.9	240.0	28.5
181	7.3	200.4	16.5	8.0	322.5	31.5

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acetylmethylcarbinol and diacetyl[3].

When butter culture is added to cream and the cream churned into butter, a substantial portion of the diacetyl is lost in the buttermilk. Prill and Hammer[7] found that the diacetyl contents of butter were approximately one-fifth those of the corresponding buttermilk.

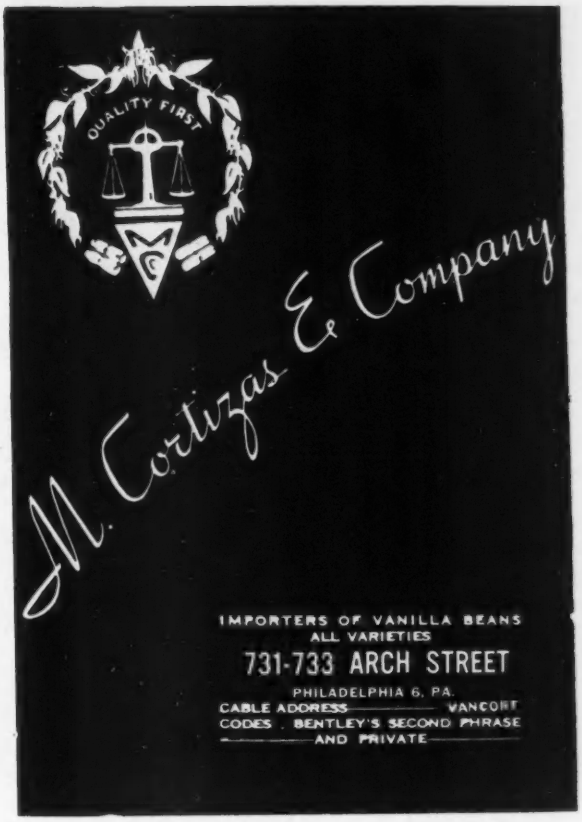
DISTILLATE PREPARATION

Because of the loss of flavor materials in the buttermilk, and because of the variation in the flavoring compounds present in butter culture from day to day, certain investigators[8] have recommended the use of a butter culture distillate. Such a distillate is prepared by subjecting a culture to steam distillation. Ferric chloride or some other oxidizing agent is added to the culture before distillation in order to oxidize the acetylmethylcarbinol to diacetyl. Butter culture that is used for the manufacture of butter culture distillate is prepared in the same manner as regular butter culture. Methods used in preparing the culture are those which are conducive to the production of large amounts of acetylmethylcarbinol, diacetyl and volatile acids. The advantages which have been listed in favor of starter distillate are: (1) It can be prepared in a control laboratory where the diacetyl content can be standardized; (2) the flavor of the butter can be adjusted to the desired amount and the flavor will be the same from day to day; (3) there is no loss of flavor constituents in the buttermilk as the distillate can be added at the time the composition is adjusted; (4) the cost of the distillate is less than that when culture is employed.

Another method which has been used to avoid the loss of flavor constituents of the culture in the buttermilk is to work the culture into the butter. With normal churning procedures the amount of culture that can be added in this way is limited if the usual composition standards are to be met[1].

Butter cultures have been examined for the presence of compounds closely resembling diacetyl and certain of these products have been studied for their effect on butter flavor. Prill *et al.*[5] noted that acetylpropionyl, acetyl-*n*-butyryl, acetyl-*iso*-butyryl, dipropionyl, acetyl-*n*-caproyl and di-*n*-butryl resembled diacetyl in odor and certain other properties, but methylglyoxal and other alpha ketoaldehydes, as well as the alicyclic and aromatic diketones, differed distinctly from it in odor and also other respects. When acetylpropionyl or dipropionyl was worked into salted butter, the effect on the flavor definitely suggested diacetyl but was less than with an equivalent amount of diacetyl and was less with dipropionyl than with acetylpropionyl. In butter, acetylpropionyl or dipropionyl contents, comparable to the diacetyl contents developed through use of cultures, were well retained over a considerable period at various temperatures. Distillates from butter cultures gave no evidence of the presence of higher homologs of diacetyl or acetylmethylcarbinol: methylglyoxal also was absent.

The neutral compounds (acetylmethylcarbinol, diacetyl and 2,3-bu-



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tylene glycol) present in butter culture are not restricted only to this product; they are found in other products as well. One or more of these neutral compounds are present in the following substances: dark beer, roasted coffee, honey, molasses, raspberry juice, strawberry juice, tobacco smoke, vinegar, etc.

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[1] Babel, F. J. and Hammer, B. W.
Action of Butter Cultures in Butter: A Review
Journal. Dairy Sci. 27: 79-141. 1944.
[2] Brewer, C. R., Werkman, C. H., Michaelian, M. B. and Hammer, B. W.
Effect of Aeration Under Pressure on Diacetyl Production in Butter Cultures
Iowa Agr. Expt. Sta., Res. Bull. 233, 1938.
[3] Hammer, B. W and Babel, F. J.
Bacteriology of Butter Cultures: A Review Jour. Dairy Sci. 28: 83-168. 1943.
[4] Michaelian, M. B., Farmer, R. S. and Hammer, B. W.
The Relationship of Acetylmethylcarbinol and Diacetyl to Butter Cultures
Iowa Agr. Expt. Sta., Res. Bul. 155, 1933.
[5] Prill, E. A., Fabricius, N. E. and Hammer, B. W.
Diacetyl and Other *Alpha*-Dicarbonyl Compounds with Special Reference to the Flavor of Butter, Iowa Agr. Expt. Sta., Res. Bul. 265, 1939.
[6] Prill, E. A. and Hammer, B. W.
Production of Diacetyl from Citric Acid in Butter Cultures Jour. Dairy Sci. 22: 67-77. 1939.
[7] Prill, E. A. and Hammer, B. W.
Changes in the Diacetyl and the Acetylmethylcarbinol Contents During the Manufacture of Butter. Jour. Dairy Sci.22: 79-88. 1939.
[8] Ruehe, H. A.
Controlling Flavor in Butter
The Creamery Jour. 49: 5, 28. 1938.

(*Editor's Note:* In the manufacture of artificial butter flavors that possess a true butter note, use is made of all of the alpha dicarbonyl compounds mentioned in this article. The quality of these compounds varies considerably as does the quality of the diacetyl that is sold on the market.

Other compounds used in butter flavor formulations are the butyrates such as the ethyl and butyl derivatives. A more recent one is butyl butyryl lactate. Experimentally, one can work with the lactate in the ratio of 1 part to 5 or 10 parts of diacetyl.

In butter itself, averages of many tests show that the ratio of acetylmethylcarbinol to diacetyl is from 1:0.1 to 1:0.2. The analysis of some fifty odd samples of butter show that the total of acetylmethylcarbinol and diacetyl is from 0.49 to 3.00 mg. of nickel salt (of these two compounds) in 200 grams of butter.

An interesting publication describing diacetyl and other alpha-dicarbonyl compounds is written by E. A. Prill and B. W. Hammer, Research Bulletin No. 268 of the Agricultural Experiment Station at the Iowa State College of Agriculture. It describes the compounds, the patent and literature background, method of preparation and some of the effects of these additions on the flavor of butter itself.)

FEMA Convention

After a lapse of two years, the Flavoring Extract Manufacturer's Association is to hold an annual convention, its thirty-sixth. It will be held at the Hotel Drake, Chicago, Ill., June 2, 3 and 4, 1946.

A convention replete with good speakers covering topics of vital interest to members is being arranged. Major entertainment features will be the banquet and golf tournament. The former will be held June 3, and the latter the following afternoon.

The Drake has set aside a limited number of rooms so reservations should be sent in promptly. The registration fee for the convention is $20.00 per person. Checks should be sent to Clarke E. Davis, Convention Committee, Virginia Dare Extract Co., 882 Third Ave., Brooklyn, 32, N. Y.

Cuban Sugar Research

Cuba is showing renewed interest in sugar research for the purpose of increasing efficiency and reducing cost of production to meet postwar competition in its industry. Two bills proposing to establish research institutions have been introduced into the Cuban Congress, the Sugar Technicians' Association has recommended an elaborate research plan, and the press has devoted considerable space to the subject.

CUBA'S SUGAR CLUB

In 1924 about 80 of Cuba's sugar mills combined to form the Sugar Club, which contracted with the Tropical Plant Research Foundation to establish a sugarcane research station in Cuba which operated until its funds were exhausted in 1932. The depression and low sugar prices made it necessary for mills to cut expenses, and research was stopped. Since that time the only research has been small-scale experimentation by individual sugar mills, mostly on the subject of cane varieties.

A law imposing a tax on raw sugar and providing that half of the funds be used for construction of a national library and the other half for sugar research was passed by the Cuban Government in March, 1941. Construction of the library was given priority, however, and since it will take three or four years longer to collect the money needed for the project, no part of the funds will be available for sugar research for some time. It was reported in December, 1945, that one bill introduced in the Cuban Congress proposed that the law be modified to permit half of the money thus far collected for the library to be used for sugar research.

In January, 1944, the Cuban cane growers and mill owners agreed to contribute $72,353 a year to the Sugar Research Foundation in the United States. Although this is not direct research on production in Cuba, it is a contribution toward sugar research in general and the development of new uses in Cuba's principal market.

RESEARCH LABORATORY

Another bill before the Cuban Congress would create a research laboratory at a sugar mill which is already under the jurisdiction of the University of Habana. This bill proposes to provide funds from the profits to be derived from new products developed at the laboratory. The Minister of Agriculture and the President are proposing that a third of the revenue from the existing production tax on raw sugar be set aside for sugar research.

A plan has been suggested which would establish a Consolidation Fund with a levy of 2 per cent of the total sales value of the sugar crop, the fund to be devoted to scientific investigation, pilot plants, experimental stations, fellowships for training students, prizes, foreign and domestic advertising, and expansion of the scope and work of the sugar associations and the Sugar Institute. This fund should yield about $6,000,000 a year during the proposed five-year period.—*Foreign Commerce Weekly, February 9.*

A Correction

In "Domestic and Imported Oil Dill," which appeared in the February, 1946, issue of THE AMERICAN PERFUMER, first quality dill seed was given a specific gravity at 15 deg. C. of 0.899-0.940. This was in error. The correct reading should be: 0.899-0.9148.

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* Consult your nearest paper box manufacturer. Ask him for the latest packaging survey (Dept. 32), "Soap and Cosmetics Industry".

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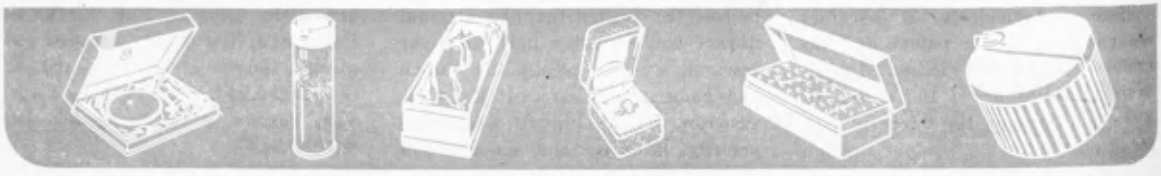

by ARNOLD KRUCKMAN

THE appeal to the people to tighten their belts and to go back to what amounts to wartime rations has an immediate repercussion on all business and industry. To the cosmetics, toiletries and flavors industries, it must signify that there will soon be less alcohol, a reduction in the volume of fats and oils, less glycerine, castor oil, citrus products, olive oil, some essential oils, and there must inevitably be a more limited supply of containers and closures. The general contraction is bound to affect some part of practically all phases of materials and products of the American economy.

The appeal has been based upon voluntary participation by every individual in the nation, but there are bound to be strings to the eventual interpretation of that word voluntary. We know that wheat, corn, sugar, meat, and other foodstuffs, must be cut down in consumption by quantities ranging in some instances as high as 50 per cent. This obviously cannot be accomplished solely by voluntary means. In a recent conference between Secretary of Agriculture, Anderson and his immediate lieutenants he made it very clear that the sweeping reduction must be practiced at least for the rest of this year; and it is generally assumed here that it will probably continue until some time in 1947.

EUROPEAN FOOD SITUATION

The present program is presumably based upon the reluctant conclusion that we must again practically revert to modified war conditions because the situation in Europe and elsewhere is far worse than we have hitherto been able to garner from the casual news reports. It is widely known, of course, that in some areas some people actually have become crazed by starvation and are practicing cannibalism.

SOCIAL AND ECONOMIC ORDER

The situation, involving perishing hunger, disease, potential epidemics, and annihilating crimes, approaching in some instances almost complete collapse of all vestiges of civilization, has led our Government officials to the conclusion that decisive action is necessary to prevent the world from slipping into a greater economic and social abyss. They apparently feel it is not merely a matter of altruism, but that action is imperative to protect us from the effects of spreading catastrophes. Leaders of other countries, as well as our own, apparently have decided that there can be no normal function of business and life in any country until Europe and other parts of the world are restored to some degree of orderly social and economic existence.

It is obvious they feel that as the ruin and desperation spreads in the world, those who are the victims will be more ready to turn for leadership to the elements in the world whose philosophy is not our social, economic and political philosophy. The tensions that have already developed, with such incredible speed that another war is an open and daily topic of discussion, patently are among the reasons why the discipline of another war economy is expected to be accepted by everybody for the purposes of peace, to prepare for anything.

It is hoped sanity may be restored by feeding the Europeans, building up their health, and inspiring a morale that will lead them to go back to a semblance of everyday life. The thought appears to be that when they settle down to the jog trot of contributing to the world's daily output, they will look to us in procuring their goods and services, and we may be able to sell to them some of our surplus. It is felt that those great groups on the globe which plan to flood the world with goods produced at almost unbelievably low cost would benefit by the prôtracted persistence of chaos in large tracts of the globe. Recovery in these areas, on the other hand, is expected to help stabilize a condition which flows partly from the use of looted machinery and the transfer of huge populations into areas where they virtually have become slaves. Under the leadership of Herbert Hoover, our own influential people apparently have adopted the idea that wherever there is a global sickness, the cure must be applied whether the ailing are friend or foe.

INDUSTRY TO VOICE OPINION

The exact plan to encompass the broadest purposes is probably not known beyond the top circle. Since the program must rest upon much the same general spirit which animated the production drive that made WPB work, it is certain industries, such as the toiletries, cosmetics, and flavors industries, will be consulted. The industries will unquestionably be asked to present their ideas, and a clear picture of their needs. It is certain the industry which can demonstrate that any restraints and allocations will be a hardship to the consumers,

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and the fundamental existence of the industry, will find no unreasonable interference. The actual welfare and needs of Americans will come first.

ALCOHOL USE CHECKED

It seems more than probable that alcohol will be among the first group of materials, used by our industries, that will be hit. An amendment to WFO 141 was announced by the Department of Agriculture on the last day of February, prohibiting the use of grain in the production of industrial alcohol, unless specifically authorized by the Production and Marketing Administration. The P and MA officials suggest the large stockpile of industrial alcohol still held by RFC should make any added production unnecessary. The fact, however, that many processors, who make industrial alcohol, have planned to start production from grain, indicates there is need for an addition to the current supply. A few days before the War Food Order was amended, CPA banned the use of cane alcohol in beverages by issuing a new Order, CPA L-353. It was stated the Order became necessary "to increase the production of industrial alcohol for widespread industrial uses, and in urgent demand." It should be marked by this industry that cane alcohol imported tax free for industrial purposes is exempt from Order L-353. This significant statement was made by CPA:

"Commercial inventories and production of ethyl alcohol are insufficient to meet the demand, as supplies of raw materials from which it is made are short. The bulk of prewar industrial alcohol was made from two types of Caribbean molasses—blackstrap and invert. Imports are short for several reasons: there was a great drought in the Caribbean in 1945; the world sugar shortage renders undesirable the production of invert molasses; Cubans manufacture a motor fuel, using a high proportion of molasses-derived alcohol, which is absorbing almost 50 per cent of the available supply of molasses. Moreover, the amount of molasses available in stock, or predictable, from 1946-47 production in the Philippines and Java is unknown."

SUGAR ALLOCATIONS HELD DOWN

It is revealing that industrial sugar allocations for the rest of the year will be held down to 50 per cent or 60 per cent. It was expected the supply would increase to 85 per cent or 100 per cent by Fall. At this writing there is no sign that industrial alcohol will be placed under a new allocation control, or that any changes will be made in the form of the control, or that limitations are immediately contemplated. Larry Brown, head of the Chemicals Division in CPA, is presumably tough in dealing with industrial users of alcohol and allied materials; but Larry, a friend of the underdog, is notably fair. He will talk to you with brutal candor, and give you the break you deserve. The original over-all purchase of alcohol by RFC exceeded $1,000,000,000. There still is several million dollars' worth in the stockpile. The distributor is compelled to buy a certain percentage of the surplus alcohol with each quantity he sells to those whom he supplies. If you are interested in learning how they made (and used) ethyl alcohol from dry wood in Germany, send to the Office of the Publication Board, Department of Commerce, Washington 5, D. C., 25c., and ask for Report No. 4115.

If you ask for Report OPB-7, and send 10c., you will learn how the Germans used calcium carbide as a raw material to make ethyl alcohol.

FATS AND OILS EXPORTS

Fats and oils are expected to be exported in very large quantities to those who must be helped. The Department of Agriculture recently sent Dr. Miriam L. Bomhard, one of best known Ecologists in America, to Brazil. She reports the Americas have 1250 palms natural to the hemisphere, and that Brazil, with 500 different species, has more kinds of palm trees than any other country in the world. Agriculture Department is keenly interested in the fact that most of the oil-yielding palms of Brazil have a high saponification value with excellent lathering qualities. Principal palm oil trees are the babassu, licuri, tucum, and murumuru. Others coming into use, are: bacaba, pataua, macauba, mucaja, burity, murity, and jupaty. It is interesting to learn that coconut and African oilpalms, both imported from abroad, do not equal in yield the native palms in Brazil. Castor oil, incidentally, costs more to bring into this country, and OPA gave permission to raise the ceiling price. There was immediately a price rise of 9 per cent.

Detailed data about the German soap industry and German chemical developments in emulsifying agents and synthetic detergents are given in three reports issued by the Department of Commerce, 2421, 3867 and 3858. As usual they may be obtained from the Publications Office. It is a Department of Commerce economist who has just issued a pamphlet which declares that 59 per cent of the consumer's expenditure for a cake of soap goes into distribution cost, and that only 41 per cent goes into production.

Census Bureau reports in 1945 there were produced 6,353,000 gross toiletries glass containers, 50 per cent more than in pre-war 1939. It is expected the heavy demand for food containers will bring out some amendment to L-103, in order to set controls on the deliveries of less essential containers. This situation, in addition to the arrest of the movement to return to metal containers, may make the glass container supply very difficult. Closures of all kinds are also regarded with doubt. Early in February, Directions 9 to M-21 and M-81 practically restricted the use of most of the production of metal closures to products to be delivered for shipment abroad. Another amendment is expected which will clarify the earlier order by making it mandatory for tinplate producers to deliver 85 per cent of their product to makers of cans and closures for the special purposes indicated. The other 15 per cent is to be used to make closures for all other types of glass containers in general use. It is hoped this new amendment will facilitate the supply of closures to the toiletries and cosmetic industry. Paper and paperboard of all kinds are extremely tight. It is anticipated only the most rigid controls will preserve stability in the field of paper containers. It behooves the toiletries and cosmetic distributor to shop quickly and early to secure paper materials. Almost any kind of wooden box is hard to get, and will be still more difficult to obtain, according to Government people.

CPA PLANS

The toiletries and cosmetics industry will do well to get well acquainted with the Civilian Production Admin-

istration. There is no particular or specific official who attends to the problems of the industry. You go to the man who is in charge of the commodity or service with which your immediate problem is concerned. You will undoubtedly have to lean on CPA because the new wage-price order alone makes certain there will be comprehensive controls over many phases of industry and business. CPA already has made a determined drive on hoarders. In a short time it has checked 5000 business units and has reported a number for excessive inventories. One user of bottles will be rigidly restricted in the number of bottles which he may procure during the rest of the year, and he will be penalized for willful violation of hoarding.

PLACEMENT OF PRIORITIES

Recently, by reason of lack of help, CPA has had difficulty in placing priorities properly. It expects very soon to have 1000 men in the field. A hundred will act as a roving squadron of trouble-shooters, moving from place to place, to crack bottlenecks. Specific industries, manufacturers in trouble, will be helped, with priorities, to obtain materials, labor, and facilities, which may be in use elsewhere by those who make less essential goods. Despite the funny gyrations of Congress, you may almost depend upon it that the condition which CPA fights will exist at least another year. It has recently been asked by Budget to prepare an estimate of expenses from July 1, 1946, to June 30, 1947. It is important to bear in mind that CPA trouble-shooters ofter will determine whether one industrial plant is more important than another; whether labor should be assigned to one or the other; and whether materials will do more good in one plant than in another.

Those who run short of some things they need very desperately will have to appeal to CPA for help. CPA can issue the priority which declares a material critical; and it can send its people to the plant or the factory to help the operator to find the things or the facilities that are lacking. WPB pushed production by supplying the priority and the authority; the plant operator had to do his own expediting. CPA provides the priority, and then gets behind the operator with its authority and its men and women to help the operator to get the materials, and equipment, and facilities that are lacking. CPA has the power to declare a critical area, and to bestow a priority, and it acts as expediter to make its authorities and powers effective. You will have to go to CPA for the rating that will enable you to get materials to make repairs and to replace things in your building. You will not be able to get authority to build a new plant or store.

The key to the new wage-price order is the fact which few seem to understand; even when you get the authority to raise your prices, you must take the expense of the higher wages you pay out of the profits you make; you cannot get a price-rise which will give you a higher net profit. This Administration sincerely believes that we have developed the machinery of production to the ultimate; that we now must develop consumption, and that more consumption will come with lower prices, and that the lower the margin of profit, within reason, the more goods the manufacturer, the distributor, and the retailers will strive to sell.

ESSENTIAL OIL REPORT

Miss Emma D. Schutrumpf, in her Commerce Department Industry Report for January, for essential oils, balsams, and gums, chronicles the arrival of bois de rose and petit grain oils from Brazil, much needed for immediate delivery. She reports lemongrass oil, received from India, appreciably eased some desperate needs. A small quantity of anise and cassia oils, landed on the Pacific Coast from China, but had little substantial effect except as a token shipment that revived optimism. Citronella oil, badly needed, at last reports was still impounded at an American port because the Government could not make up its mind about the duty because there was petroleum mixed with the citronella. More bergamot oil is expected from Italy, and more substantial shipments of linaloe are expected from Mexico.

National Labor Relations Board reports the petition by an AFL Union to act as bargaining agent for the employees of Lady Esther, Ltd., Chicago, Ill., had been denied because a vote taken showed 30 against the Union and only 5 in favor. In New York the Cosmetic, Soap and Perfumery Workers Union, AFL, petitioned to act as bargaining agent for the employees of Elizabeth Arden, Inc., and Elizabeth Arden Sales Corporation. A vote is to be taken early in March to determine whether or not the workers wish to be represented by the Union.

T. W. DELEHANTY'S TITLE

At present Mr. Delehanty, in the Chemicals Division of the Department of Commerce, signs his letters two ways: in one incarnation he signs as Associate Chief, Chemicals Division, Commodities Branch, Office of World Trade Promotion, U. S. Department of Commerce; in the other he is supposed to sign as Acting Assistant Chief, Chemicals Section, Industry Division, Office for Domestic Commerce, U. S. Department of Commerce. It is not yet known how Mr. Delehanty will sign his letters permanently.

The head of the Commodities Branch, Mr. H. B. McCoy, and the head of the Chemicals Division, Dr. C. C. Concannon, are reluctant to throw the embarrassment into the lap of the Secretary of Commerce. It therefore has been decided that the question shall be decided by the Civil Service Commission. Mr. Delehanty, has been under Civil Service for all the years he has been an employee of the Department of Commerce. Dr. Concannon also has been under Civil Service rating. Obviously Civil Service, as a neutral and impartial umpire, will rule according to the record; and the record logically is based upon length of service, or the importance of the service; in essence, the seniority of the individual. It may be illuminating that an inspection of the organization chart of the Office of World Trade Promotion would show this: Dr. C. C. Concannon, Chief, Chemicals Division, Commodities Branch, etc.; T. W. Delehanty, Associate Chief, Chemicals Division, etc. Dr. Concannon's name would be seen first on the chart, as Chief, and not as Associate Chief; Mr. Delehanty's comes second, as Associate Chief. It has been suggested that the organization chart decisively settles the question, and that it is a waste of time to burden Civil Service with the responsibiilty of forming a judgment in this situation.

AMONG OUR FRIENDS

▸ Andre Givaudan, son of Xavier Givaudan, head of L. Givaudan & Cie., Vernier-Geneva, Switzerland, arrived by airplane in New York February 11 for a few weeks' visit with the American company, Givaudan - Delawanna, Inc., New York, N. Y., of which Dr. Eric C. Kunz is president. Mr. Givaudan is an executive of the old Swiss house with which he has been associated ever since he completed his education, and has familiarized himself with all branches of the business. This trip was his first visit to the United States as an emissary of his company since war broke out in Europe; and was made to observe the twentieth anniversary of Givaudan-Delawanna, Inc.

Andre Givaudan

Following a luncheon given in his honor by the sales staff of Givaudan-Delawanna, February 18, Mr. Givaudan discussed conditions abroad, particularly as they affect the synthetic aromatic chemical industry. At present labor costs in Switzerland average 80¢ per hour, as contrasted with 35¢ before the war. There is a great scarcity of coal, and wood is used largely for heating. On account of the shortage of fats, very little soap is being made; Mr. Givaudan admits that soap manufacturers would use more synthetics in the future, due to successful wartime experience. Throughout the war, while manufacturing of synthetic aromatic chemicals was curtailed somewhat due chiefly to shortages of raw materials, research was continued and as a result, the company expects to announce some interesting new specialties before long. Generally, despite the chaotic conditions which came as an aftermath of war, the economic and political situation in Europe is improving, although he felt that it would be a long time before normal conditions prevail on the continent. As to the United States he is optimistic. While he recognizes the strides made here in the development of an aromatic chemical industry since the close of World War I, he also expressed the opinion that there would always be a field here for certain specialties and aromatic chemicals produced abroad, especially where special facilities or other advantages make it more economical to produce them there.

▸ Dr. Harry Dean Wolfe has been appointed director of marketing for the Colgate-Palmolive-Peet Co., Jersey City, N. J.

Harry Dean Wolfe

He came to the company in 1943 as manager of sales research. Formerly, he had been associated with the War Production Board where he played a prominent part in the Inventory Limitation Control Order. He was also former professor of marketing at Kent State University and before that with S. Kann Sons Co.

▸ Stephen D. Garst has joined the staff of Bjorksten Laboratories, Chicago, Ill., as a chemical metallurgist.

Mr. Garst was previously connected with the Dodge Chicago Plant of the Chrysler Corp. He received his degrees of B. S. in Chemical Engineering and of M. S. in Metallurgy from the University of Iowa in 1931 and 1932. After graduation, he worked several years for the Federal Government and for the Socony Vacuum Oil Co. as a chemical engineer and metallurgist.

▸ Richard R. Deupree, president of Procter & Gamble, Cincinnati, Ohio, was appointed general chairman of the Army and Navy Munitions Board by President Truman, Feb. 7. Mr. Deupree had previously been associated with the War Production Board and had acted as chairman of the Business Advisory Council.

Other members of the Board are Under-secretary of War Kenneth C. Royall, and Assistant Secretary of the Navy H. Struve Hensel.

▸ Gertrude Brows has been appointed managing director of Henry Rosenfeld Cosmetics Corp., New York, N. Y., the new division of the well-known dress house. The Rosenfeld Cosmetics line will have not only national distribution, but will have representation in many foreign markets.

Gertrude Brows

Miss Brows was sales promotion and advertising manager of Jacqueline Cochran Cosmetics for the past five years.

Previous to that time she was active in the retail field as a department store stylist, and had been merchandise editor of a trade paper.

▸ John A. Corson, after more than forty years of devoted service to Dodge & Olcott, Inc., New York, N. Y., and who has been assistant secretary to the company for a long period of time, is withdrawing from active participation in the business.

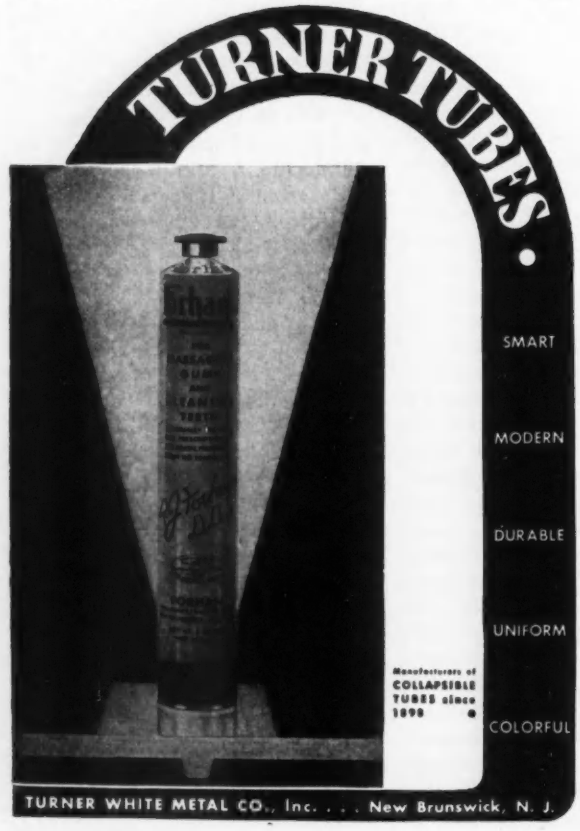
He attended Rutgers College and played on the university football team. Leaving college, he entered the publishing business with the firm of William Wood & Co.

Mr. Corson started work with "D&O" in 1900, in the old William St. Store. He moved with the concern to Fulton St. and eventually to Varick St. Mr. Corson came originally to assist Mr. George M. Olcott and Mr. Francis E. Dodge in their work in William St.

His knowledge of foreign lands, their customs and their products is very extensive. He leaves active business with the good will of all of his associates and with the best wishes of many of his competitors.

On Feb. 25, a farewell dinner was given by the employees of Dodge & Olcott to Mr. Corson and to Mrs. Edna Woolley. The latter had spent about twenty-nine years with Dodge & Olcott and is retiring at this time.

Illustration courtesy of Auto-Lite Battery Corp.



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THE SCIENCE AND ART OF PERFUMERY deals to a great extent with the perfume chemist and his work. It holds even greater value, however, for those engaged in the more commercial aspects of the industry—the executive, the purchasing agent, and particularly the salesman, who will find this book invaluable for its informative and historical data.

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Francois Goby

▸ Francois Goby, director of Tombarel Freres, Grasse, France returned home February 14 following a visit of a little over two months to the United States, the first since the outbreak of the war in Europe. Most of his time while in the United States was spent in conference with L. J. Zollinger, head of Tombarel Products Corp., New York, N. Y., the American representatives of the firm. Before his departure Mr. Goby expressed gratification over the business outlook and over the many indications that point to closer relations between France and the United States in the years to come.

▸ Dr. Donald B. Keyes has been elected vice-president in charge of research for the Heyden Chemical Corp., New York, N. Y.

He was formerly director of the office of production, research and development of the War Production Board, and head of the chemical engineering division of the University of Illinois.

▸ Robert O. Furth who is in charge of the cosmetic and perfume factory of John Wanamaker, Philadelphia, Pa., was married to Mrs. Freda Hofmann, February 21. The ceremony took place in the Philadelphia City Hall and was performed by Curtis Bok, president judge. Mr. Furth who has been identified with the essential oil industry for many years is well known throughout the trade. Mrs. Furth holds an M. D. degree from the University of Vienna and a B. S. degree from Columbia University. Among the guests at the wedding was Mrs. J. P. Clark, wife of the former chairman of the Democratic party in Philadelphia, who is an old friend of Mrs. Furth. Mr. and Mrs. Furth reside in East Falls, a suburb of Philadelphia.

▸ William Schilling, Jr., of the Norda Essential Oil & Chemical Co., and president of the Essential Oil Association recently returned from a much needed rest at St. Petersburg, Fla.

▸ F. T. Dodge was elected president of the Vanilla Bean Association of America at the annual meeting held recently. Edward S. Buckley became vice-president, and J. Manheimer was made treasurer.

The Board of Directors consists of Chester A. Smeltzer, Ferdinand Weber and William Schilling, Jr.

▸ Lieut. Leonard H. Schultes, son of Martin Schultes, chairman of the BIMS and head of the New York office of the Hewitt Soap Co. was released from military service March 12 after serving two years with the Navy; and is now relaxing before returning to the onerous problems of present day civilian occupation. He spent a year in Aleutian waters on a Navy oiler and the balance of the time on an electronics repair ship.

L. H. Schultes

▸ Ralph H. Auch has been named sales representative in Cincinnati, Ohio, for Aromatic Products, Inc., New York, N. Y.

▸ Henry F. Kroger has resumed his duties as sales representative with Richard M. Krause Inc., New York, N. Y., following service in the Army since 1943. He served in the European theatre.

▸ Georges Gruska, director of Parfumerie Parbel, Brussels, Belgium, which has branches in France and in London, arrived February 15 on a troopship for his first visit to the United States. Mr. Gruska reports that of all of the invaded countries of Europe, Belgium is in the most fortunate position at present. The black market has been almost completely wiped out, transportation is good and the production of coal is about 80 per cent of the 1938 production. Prices are held down to a maximum of three times prewar prices, with the trend downwards particularly in the larger stores.

▸ Major Thomas C. Sheffield, whose father, L. Tracy Sheffield, is president and treasurer of the Sheffield Company and president and treasurer of the New England Collapsible Tube Company of 170 Broad Street, was presented the legion of merit recently by General of the Army H. H. Arnold, commanding general, army air forces.

Several senior officers were present at the ceremony. Major Sheffield is on duty with headquarters army air forces. The citation read as follows:

"Major Thomas C. Sheffield, air corps, army of the United States. For exceptionally meritorious conduct in the performance of outstanding service from June 1944 to October 1945. As aide to the commanding general, army air forces, he insured the safety of the commanding general at all times on tours of the theatres of war as well as at the historic Quebec and Potsdam conference with representatives of the Allied nations. In addition, Major Sheffield, by exercise of his tact and diplomacy, constantly and accurately completed the detail attendant upon his position, thereby contributing to the success of these negotiations. His actions have at all times reflected highest credit on himself and the army air forces."

It's good news, too, to hear that Major Sheffield will shortly become a civilian. He will, of course, continue to be associated with the New England Collapsible Tube Co.

Gen. Arnold congratulates Maj. Sheffield

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NEWS and EVENTS

Backers Push Reece Bill at House Subcommittee Meeting

At a public hearing, backers presented the Reece bill at a public hearing of a House subcommittee meeting. Although not a member of the subcommittee, Clarence F. Lea presided. The hearings will be continued at a date set by Mr. Lea to permit the Federal Trade Commission to express opposition to the bill.

Witnesses included: Dean E. Blythe Stason, James F. Hoge, Isaac W. Digges, Charles E. Murphy, Sylvester J. Liddy, Hugo Mock, Kenneth J. Perry, George H. Frates and Dr. Robert L. Swain.

May Ration Shipments of Citronella from Dutch East Indies

Importations of essential oils, notably citronella, produced in the Dutch East Indies are to be allocated on a basis of 1939-41 importations according to a plan being worked out by a special committee in New York representing the former Dutch East Indian government. The committee is composed of Fred Thurkauf, William Schilling, J. H. R. Stephenson, A. L. Picard and L. J. M. Wezeman. If, as and when citronella and other oils will be distributed on that basis, it will definitely be a private and not a governmental operation.

René Forster Incorporates

René Forster became a corporation as of March 1, 1946, under the name of the René Forster Co., Inc., New York, N. Y.

Members of the staff are: René Forster, Arnold F. Anderson, Frank H. Sloan, Robert G. Sanger, F. K. Schubert, Albert P. Sanger, Richard K. Surgot, Edythe Frank, Marie Rodriguez and Patricia Kelly.

Robert G. Sanger rejoined the company as of Feb. 15, in a sales capacity. He was recently released from the U. S. Army after serving 4 years.

Increased Output of Essential Oils Expected

George H. McGlynn, treasurer of Magnus, Mabee & Reynard, Inc., New York, N. Y., predicted that the supplies of essential oils would increase this year, approaching normal during the second half of the year, at the three day conference held by the company in Dec. He stated that despite increased production, competition among buyers would keep prices high.

The first installment of the new book "Marketing Drugs and Cosmetics" by Louis Bader and Sidney Picker makes its appearance on page 113 of this issue. THE AMERICAN PERFUMER feels that its readers will find this to be a particularly timely and worthwhile work.

Binstead, on a New York Visit, Reports Brighter Sandalwood Outlook

Capt. S. T. Binstead, Mysore Government Trade Commissioner in London, arrived in New York March 6 on a hurried trip to the United States. He expressed himself as being fortunate in having an opportunity to visit New York where he had a number of conferences with R. Righton Webb and Cecil Rice, executives of W. J. Bush & Co., Inc., agents for the United States of Mysore Government sandalwood oil. He brought the welcome news that a satisfactory program covering shipments of sandalwood logs to this country had been arranged.

Study to be Made of Creams Containing Estrogens

S. B. Penick & Co., New York, N. Y., has made a grant of $3,000 to the University of North Carolina, Chapel Hill, N. C., for the study of the therapeutic values of creams containing mixed estrogens.

Veteran employees of A. H. Wirz, Inc., Chester, Pa., feted on the company's 110th anniversary for their long service. Seated, Charles Hax receiving pin for 64 years, and Samuel Rinehart for 61 years, a total of 125 years service. Standing, Mrs. Henry M. Wirz, widow of the son of the founder who established the first collapsible metal tube business in America, H. S. Darlington, president of the company, and Phyllis Shade, a junior employee.

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Twentieth Exposition of Chemical Industries a Success

The biennial expositions of chemical processing equipment, materials and chemical products, interrupted by the war, was resumed Feb. 25 to March 2. It was the twentieth exposition, and was the first held since February, 1941.

The exposition, held at the Grand Central Palace, New York, N. Y., had some 400 exhibits, which was about 100 more than in 1941.

It was well attended by scientists, chemists and business and plant executives.

Dominion Products in New Plant

Dominion Products, Inc., has moved to a new and enlarged plant at 10-40 44th Drive, Long Island City, L. I., N. Y.

Essential Oil Picture Spotty

The Department of Commerce reports that stocks of peppermint and spearmint oil will be in ample supply. The lemon and orange oil picture should improve provided there is a leveling off of government requirements, however, larger crops are expected and additional arrivals of Italian oil.

Expanding home consumption in France, small production, and export control make any substantial quantities of floral and essential oils unlikely from France. Transportation and monetary difficulties complicate the importation of Chinese oils, anise and cassia.

Private Label Concerns Make 20% Of Cosmetics Says Dept. of Commerce

An estimated 20 per cent of the national output of toilet preparations are produced by private label companies according to the Department of Commerce. There are no statistics to show the actual dollar value of products put out by private label manufacturers, it is pointed out by L. A. Barber in an article in the March issue of *Domestic Commerce*. In it he points out how private label manufacturing concerns operate on the cosmetic business and the advantage especially to smaller cosmetic concerns, of employing their services.

International Beauty Show Well Attended

The International Beauty Shop Owners Convention and Exhibition, held March 11, 12, 13 and 14, at the St. George Hotel, Brooklyn, N. Y., was a well attended affair. The many guests were eager to learn the latest techniques in hair dressing and waving.

A feature of the meeting was a series of classes on hair styling. Subjects covered included: When to bob, Summer formals and informals, hair thinning and tapering, labor problems, rating receptionists, the importance of the voice, white-haired coiffures, advertising ideas, hair and hat style creations, facials, the use of jewelry. This feature ended in a discussion of questions previously submitted.

Four weekly conferences to be held throughout the summer were announced. The meetings are to be held during the weeks of: July 22 to 27; July 29 to Aug. 3; Aug. 5 to Aug. 10; and Aug. 12 to Aug 17. Those attending may confer with guest artists on advanced trends and new hair styles for the coming season.

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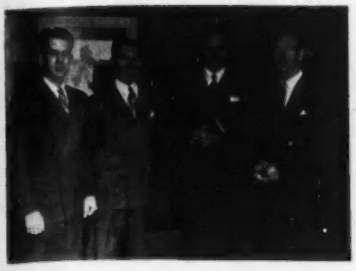

Pictured above are four new men who have been added to the staff of Magnus, Mabee & Reynard, Inc., New York, N. Y. These ex-servicemen are: Roy E. Webb, chemist, formerly a Second Lieutenant with the Army Air Forces; Charles B. Taxier and Stanley T. Olds, sales representatives for the metropolitan area, Ex-Sergeant and First Lieutenant respectively; and Kenneth Stephenson, jr., assistant manager in the order department, formerly a Captain with the AAF Personnel Distribution Command.

Gro-Tex Products Co. Resumes Manufacture of Hair Preparations

Gro-Tex Products Co., 5838 Waterbury Circle, Des Moines, Iowa, has resumed the manufacture of hair and scalp preparations which was suspended during the war on account of shortages of needed raw materials.

Award to R. Righton Webb for War Food Research Service

R. Righton Webb, treasurer and general manager of W. J. Bush & Co., Inc., New York, has been awarded the Certificate of Appreciation by the Quartermaster Subsistence Research and Development Laboratory for meritorious service in research and development phases of the World War II food program of the Army.

DCAT Membership Reaches New High

At the meeting of the DCAT Executive Committee on Feb. 27, the report of the Membership Committee, made by Chairman Lloyd I. Volckening, disclosed that the membership of the section stood at the all-time high of 650. The past two years showed an increase of over 50 per cent.

New Dow Chemical Warehouse

The Dow Chemical Co., Midland. Mich., is erecting a new warehouse at Seal Beach, Calif.

Certificate given to Mr. Webb

Tin Shortage to Be Gradually Relieved

According to *The Journal of Commerce*, the shortage of tin will be eased during the second quarter of this year, and a full supply will be in the market by the middle of 1947. The expected easing of the shortage will result in a gradual lifting of restrictions which were placed on the use of tin.

It is estimated that 75,000 tons of virgin tin will be available this year, broken down as follows: From war sources, 35,000 tons; from liberated Far East, 15,000 tons; from stockpile, 25,000 tons.

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This oil has been the standard for many of America's very oldest cream manufacturers since their origin. It is water-white and crystal-pure . . . odorless and tasteless . . . of U. S. P. Acid Test and free of fluorescence . . . especially refined for the cosmetic industry and as pure as a mineral oil can be made. Because of its extra lightness you should specify it for the soft, light, fluffy creams demanded today.

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"Muskette"; imparts sweetness and permanence; try 1 oz. tincture to 1 gal. lilac vegetal or cologne. For perfumes, colognes, powder bases, etc., send us your check for $10.00 and we will send post paid trial lb. of each; or $5.00 for either post paid.

The floral oils remarkable likeness to genuine; sweet and flowery.

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DCAT Dinner Sold Out

Tickets for the 20th annual dinner of the Drug, Chemical and Allied Trades Section of the New York Board of Trade were exhausted after the sale reached over 2200. Non-member firms were not permitted to make reservations until ten days prior to the dinner, and as all tickets had been allocated by that time, only members were in attendance.

The dinner was held at the Waldorf-Astoria, New York, N. Y., on March 14.

A general reception preceded the dinner in the Astor Gallery, Jade Room and Silver Corridor.

The guest speaker of the occasion was Major General Leslie R. Groves, who was at the head of the atomic bomb project.

Dr. César Rey (center), of the firm of Cayetano Rey, Cuba, representative of Schimmel & Co., Inc., New York, N. Y., stopped recently for a visit to New York on his way to England, Sweden and France. He is seen here in the Schimmel perfume laboratory together with Basil Pegushin (right), Schimmel perfume chemist, and F. G. Stone who is undergoing a course of study under Mr. Pegushin prior to joining the Schimmel sales force.

Halemy Corp. Succeeds Woodland Inc., Makers of Woodland Toiletries

Halemy Corp. has been organized to take over the business of Woodland, Inc., 100 Gold St., New York, N. Y., manufacturers of the Woodland line of toiletries. Officers of the new company are: President, C. W. Hancock; Vice President and Sales Manager, L. B. Myers; Secretary and General Manager, Arthur Learey. Mr. Learey is well known in the cosmetic business with which he has been associated for many years, most recently in an executive capacity for Gaston de Paris.

Potash Soap Forum to Be Held June 4

The Second National Forum on potash soap manufacturing and distribution problems is to be held June 4, at the Stevens Hotel, Chicago, Ill. Any soap manufacturer may attend. An interesting program is in preparation.

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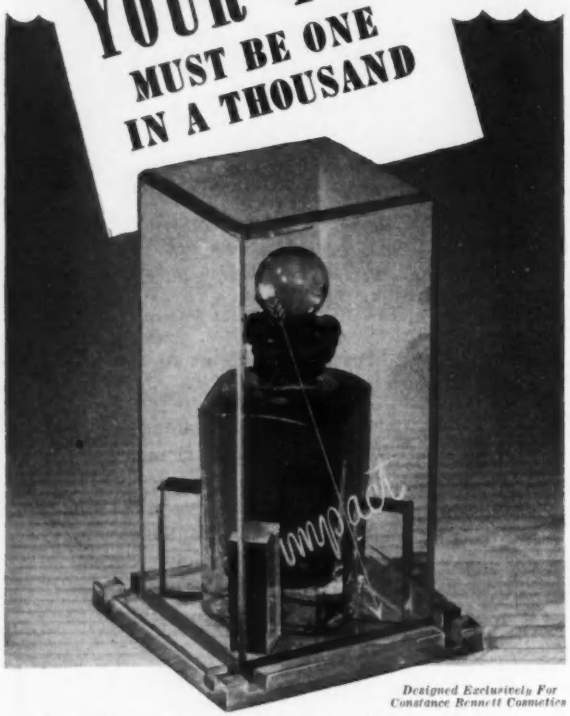

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Most packages are monotonously similar. The DIFFERENT package, the package with IRRESISTIBLE SALES-APPEAL is — One out of a thousand.

A CUSTOM MADE PACKAGE *Exclusively Yours*

BLUE RIVER PLASTICS, designed by F. J. Nussbaum, offer you that kind of package.

It is created *exclusively* for your perfume bottle. When it is placed next to others on the cosmetic counter, it actually is the package that is one in a thousand, and exclusively yours.

What's more, a Nussbaum BLUE RIVER package will be retained by the consumer as a lovely boudoir accessory.

BLUE RIVER creates exclusive Plexiglass or Lucite packages in any style or form, according to your needs and desires.

Plexiglass packages are fashioned crystal clear or in any color of the rainbow.

Solitary bases
Solitary tops
Transparent boxes with
- **Lift cover**
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- **Hinged top**
- **Trays for 3 or 4 items**

A BLUE RIVER representative will explain how you can get your exclusively created package into immediate production. Call or write today for a consultation appointment Without any obligation.

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● Uniformity of Beehive Brand Beeswax will keep your product always up to the high standard you set for it. The quality and uniformity never change. It is free from adulterants and imperfections of any kind.

And back of every tablet of Beehive Brand Beeswax stands the reputation of the manufacturer.

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SPERMACETI CERESINE RED OIL YELLOW BEESWAX
COMPOSITION WAXES STEARIC ACID HYDISTEAR

Three Partners Withdraw from Wilson Laboratories of Texas

J. A. Bankhead, R. L. Whiddon, and Roger Satterfield have withdrawn as partners of Alvin Wilson and E. H. Searle in the firm doing business under the firm name of Wilson Laboratories at Port Arthur, Texas.

Lenel Parfums Appoints Select Brands

Select Brands, Inc., New York, N. Y., has been appointed exclusive Eastern sales agent for Lenel Parfums, Dallas, Tex.

Immediate distribution of all Lenel toiletries and perfumes will follow, with emphasis on the women's line, "Trifling," and the soon-to-be-introduced line of men's toiletries under the name of "Gentrie."

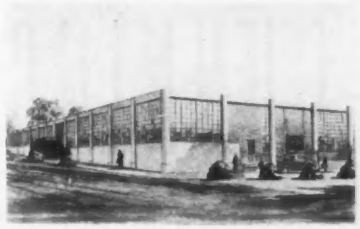
Peggy Sage Launches Flying Colors in Aviation Atmosphere

Peggy Sage, Inc., New York, N. Y., launched two new "Flying Colors" in nail polish at the Waldorf-Astoria on Feb. 20. The polish comes in two shades: Shimmering High Fashion and Shimmering Sky High.

More than 150 women and beauty editors attended. A Piper Cub (the first time the Waldorf had been so visited) was given away to Lucia Foreman, merchandise editor of *Charm;* and a trip to California via United's Mainliner was presented to Barbara Bundschu of United Press.

Milton Martin Resigns from U. S. Industrial Chemicals

Milton F. Martin, assistant general sales manager of U. S. Industrial Chemicals Inc., New York, N. Y., who has been associated with the company since he was graduated from Yale University in 1935 has resigned to become sales manager of Transfilm, Inc., New York, N. Y. a concern making educational, documentary and commercial films. Mr. Martin was a member of the Entertainment Committee of the Toilet Goods Association for years and during the war he was executive secretary to the Post War Planning Board. He is also the author of two books: "Trout Lore" and "Life with Baby."



Artist's sketch of a new building to be added to the Stamford, Conn., plant of Northam Warren Corp. The building, which will be of one floor construction covering 80 by 260 feet, is to house additional manufacturing facilities.

Olive Oil from Greece Through Exchange

The Department of Agriculture has announced that an exchange has been effected with Greece whereby 3000 metric tons of soybean oil have been allocated to that country as a result of assurances that an equal amount of olive oil will be available for export to the United States. An emergency allocation of one half the oil will be made during the first quarter and the remainder will be allocated during the second quarter.

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We supply the Soap, Perfume, Drug, Pharmaceutical, Food, Flavor, Cosmetic and Insecticide Trades.

Here are a few of the products of our own manufacture

AROMATICS

Amyl Cinn. Aldehyde	Eugenol
Aldehyde C-14 (Peach)	Geraniol Prime
Anethol N.F.	Geraniol for Soap
Benzyl Benzoate F.F.C.	Ionone for Soap
Cinnamic Aldehyde	Linalool Extra
Citral C. P.	Methyl Ionone

NATURAL & IMITATION OILS

SPECIALTIES — COMPOUNDS

Deodorant Oils — Flavoring Oils

Perfume Odors

Spice Oils — Perfume Oils

GUNNING AND GUNNING

601 WEST 26TH ST., NEW YORK 1, N. Y.

AROMATIC CHEMICALS MANUFACTURING DIVISION

IT took a war to make Americans aware that talc mined in the Golden State and in Nevada had the selfsame virtues that had long been extolled in some foreign talcs.

Talc for cosmetic purposes must rate high in three important particulars: slip—white color and purity.

Talc of good color and purity can be obtained from the best deposits but, to get "good slip", hand sorting and special grading of particle size and shape is necessary.

Wartime experience in handling talc for the most exacting steatite talc needs has given us the equipment and experience needed for the selection of the best cosmetic talcs.

We offer:

TRINITY COSMETIC • TRINITY SUPERFINE • SIERRA COSMETIC •

Less than carload lots from stocks at New York and our branches. Full carloads direct from our Western mines.

Samples, chemical analysis and other desired information will be sent promptly upon request.

INNIS, SPEIDEN & CO.

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BOSTON • CHICAGO • CINCINNATI
CLEVELAND • GLOVERSVILLE • PHILADELPHIA

Ungerer Appoints Dohrmann Representative

Edward C. Dohrmann has been appointed the sales representative of Ungerer & Co., New York, N. Y., in Philadelphia. Mr. Dohrmann will have his offices in the Bourse Building, Philadelphia 6, Pa.

Warren E. Kell, who preceded Mr. Dohrmann as Philadelphia representative, has been transferred to Boston, where he is located at 900 Statler Office Building, Boston 16, Mass.

Homemaker's Products Introduces Baby Line

Homemaker's Products Corp., New York, N. Y., has introduced the first of its line of baby products which is to consist of toiletries, feeding paraphernalia, clinical appliances, crib accessories and nursery sundries.

A Bid for Muskrat Glands

Perfume and soap manufacturers may soon be using glands of Saskatchewan muskrats as a base in their scented products.

Fred Mullins of the Provincial Natural Resources Branch, outlined objectives of the Southern Saskatchewan muskrat trapping plan at a meeting held recently at Yorkton, Sask. He said negotiations were going on with a New York firm. The firm has offered a market price for the musk glands of $5.00 per quart if enough glands are obtainable.

Mr. Mullins said the new program, under which special licenses will be required and the maximum bag set at 150 per license, was drawn up with a view to developing muskrat sources.

ADCAM Meeting

The latest regular monthly meeting of the Allied Drug and Cosmetic Assn. of Michigan was held Feb. 27, in the Leland Hotel, Detroit, Mich.

Two speakers, Lt. James F. Payne and Sgt. Albert Langtry, director and assistant director, respectively, of the scientific laboratory of the Detroit Police Department, gave interesting insights into the control of crime.

The speaker for the March 27 meeting will be Dr. Clare Ewing, chief chemist of the United Drug Co.

Cargo Christens Cargo Plane

A jug of men's cologne replaced the traditional bottle of champagne recently in christening a new air freight plane at Memphis, Tenn. The christening was done with a bottle of "Cargo" of the line of toiletries for men. This cologne is manufactured by Duncan Storm, Ltd., Minneapolis, Minn.

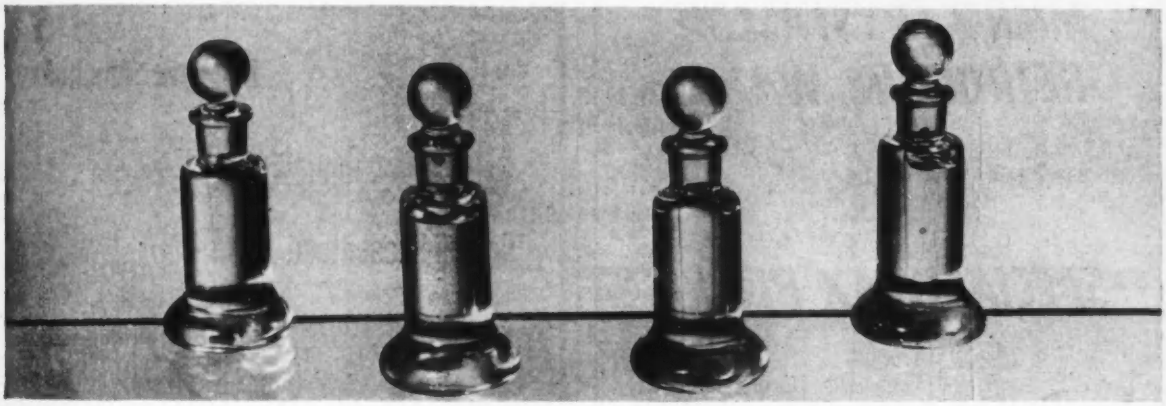
Carnes Represents Stanco Distributors

A. H. Carnes announces the opening of an office at 75 East Wacker Dr., Chicago, Ill., where he will handle Stanco Distributors' line of white oils and petrolatums in the states of Wisconsin, Illinois, Indiana and Iowa.

He will also represent manufacturers of solvents, waxes and insecticide concentrates.

Shipping Container Consultation Service

A metal shipping container technical consultation service has been opened by A. Norman Diecks, 1605 Court Square Bldg., Baltimore 2, Md.



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MICRO CRYSTALLINE PETROLEUM WAXES

•

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Phone: Sayville 400

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Amyl Salicylate

Benzaldehyde N. F.

Benzylidineacetone

Benzoic Acid U.S.P. & Tech.

Cinnamic Aldehyde N. F. VII

Cinnamic Alcohol

Heptaldehyde

Heptylidineacetone

Methyl Benzoate

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3430 Henderson St. ***Chicago 18***

Dorothy Perkins Builds New Plant

The Dorothy Perkins Co., St. Louis, Mo., has purchased 135,000 square feet of industrial ground on the north side of the 5000 block of Southwestern Ave., and ground has been broken for the construction of a new factory and office building. Estimated cost has been set at $200,000.

The plant will contain 60,000 square feet of floor space. Offices will occupy about 7000 square feet of the space. The structure will be of the one-story type. Company offices are now located at 4908 Delmar Blvd.

New Firm Under Name of Roger Laboratories

Roger Laboratories, Inc., New York, N. Y., has been formed by Charles Winchell and John Keane to manufacture toiletries for private brand. The address of the new firm is 147 West 230th St.

Essential Oil Priority Doubtful

Little hope has been offered for large-scale shipment of essential oils from the Netherlands East Indies by the agency established by the Dutch Government.

Rubber, tin. gum dammar and tapioca flour have been given top rating.

Soft Drink Exposition Postponed

The first post-war exposition of plant equipment for the soft drinks industry has been postponed by the American Bottlers of Carbonated Beverages until the Fall of 1947. This was found necessary because of reconversion difficulties and by the low production of beverages resulting from the sugar shortage.

Toilet Goods Sales Set New High

According to an estimate released by the Toilet Goods Association, the 1945 sales of cosmetics, toilet goods, and perfumes, exclusive of toilet soaps, amounted to $659,930,400. This shows a substantial increase over previous sales and sets a new high.

Standard Drug Co. Forms Division To Make Perfumes in Bulk

A new division of the Standard Drug Co., Newark, N. J., which will manufacture perfumes and toilet waters in bulk has been announced by the company. Maurice M. Feinberg, salesmanager, is in charge of the new division. The Standard Drug Co. was founded about 1900 and was reorganized in 1932. Since then it has enjoyed a steady growth and only recently moved into its new and larger quarters at 285-295 Badger Ave., Newark, N. J.

Faberge Pays $300,000 for New Plant

The Faberge Co., New York, N. Y., agreed to pay $300,000 for the Ridgewood Mfg. Co. plant at 395 Broad Ave., Ridgefield, N. J., at an auction held Feb. 16.

The current Faberge plant at 240 Madison Ave., New York, N. Y., will be discontinued except for the sales showroom, which will be continued. The new plant covers 36,500 square feet of space and will be put to full use within the month.

BENJ. FRENCH, INC.

ESSENTIAL OILS AROMATIC CHEMICALS

ORIGINAL PERFUME BASES

FLORANTHUS

Novelty base giving a sweet, flowery lift to compositions, at the same time is very lasting. Excellent base for modern odors; does not discolor.

Price: $16.00 per pound

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PERFUMES AND TOILET WATERS
IN BULK

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Manufacturers of
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DECORATING
MATERIAL
FOR PLASTIC
SURFACES...
won't SCRATCH OFF
won't WASH OFF
won't RUB OFF

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SILK · SCREEN · PRINTERS
TO · THE · COSMETICS · TRADE

Products of Tomorrow Exposition Postponed

Due to the uncertainty of products and delivery dates of vast numbers of the leading manufacturers, the Products of Tomorrow Exposition scheduled to open at the Chicago Coliseum April 27, has been postponed indefinitely.

Citronella Oil Duty Free

The United States Customs Court has decided that citronella oil which has been adulterated by the addition of a quantity of petroleum distillate has not lost its identity, and may be imported free of duty.

The decision reached was in favor of Procter & Gamble Co., Cincinnati, Ohio.

National Starch Opens Southern Division

National Starch Products, Inc., New York, N. Y., has opened a new Southern Division with headquarters at 1200 South Front St., New Orleans, La., under the managership of H. F. Stegall.

Luxury Tax May Be Continued

Chairman Doughton of the House Ways and Means Committee has predicted that high excise taxes on "luxury goods" will continue through the remainder of this year at least.

Obituary

Carl von Rohr

Carl von Rohr, sixty-three years old, secretary-treasurer of the Burma-Vita, Co., Minneapolis, Minn, died on his way to the hospital Feb. 14, after being stricken with a heart attack while a spectator at a hockey tournament.

He had been associated with the Burma Vita Co. for twenty years. He is survived by his wife, a son and a daughter.

John H. Davis

John H. Davis, of Parfums Mura Paris 1817, Inc., passed away on Feb. 15, at the age of 71, at his home in Watertown, Mass.

He had been connected with Parfums Mura (formerly Renaud et Cie. of America) for twenty-five years, and had traveled extensively in Europe in connection with his importing interests.

Garfield A. Bowden

Garfield A. Bowden died in his home in East Orange recently. He had been associated with the American Home Products Corp., Jersey City, N. J., as a research chemist. Previously he had been a member of the faculty of the University of Cincinnati.

Charles Mongere

Charles Mongere died recently at the age of seventy-five. He had been associated with the Capital City Products Co., Columbus, Ohio, where he had been in charge of cocoanut oils and specialties for seventeen years.

Leonard Davis

Leonard Davis, consulting engineer for the Union Carbide and Carbon Corp., New York, N. Y., died in his home in New York Feb. 19, at the age of 73.

ISOPROPYL ALCOHOL

available for

SHAMPOOS: Isopropyl Alcohol aids in cleaning hair and scalp thoroughly and in leaving hair soft and lustrous.

HAIR AND SCALP PREPARATIONS: Isopropyl Alcohol as a vehicle for hair and scalp preparations aids the cleansing and antiseptic value of the tonics.

STERILIZING SOLUTIONS: 40% Isopropyl Alcohol will kill dried Bacillus Coli in 1/4 minute. 50% Isopropyl Alcohol is equivalent to 70% ethyl alcohol for killing Bacillus streptococcus and staphylococcus.

BODY RUBS: Isopropyl Alcohol evaporates slowly, thereby prolonging the cooling effect when used in body rubs. Isopropyl Alcohol has no denaturants.

FACE AND HAND LOTIONS: Isopropyl Alcohol evaporates slowly; has little tendency to dry the skin, and aids in keeping the skin soft.

AFTER SHAVE LOTION: Isopropyl Alcohol is excellent for this product because it aids the after-cooling and skin-freshening qualities of the lotion.

Use 91% Isopropyl Alcohol and Release War Materials

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there is no finer
cosmetic container
than a Karl Voss box

Karl Voss Corporation
HOBOKEN NEW JERSEY

Oil of Orange
TAYLOR BRAND
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A.C. DRURY & CO., Inc., CHICAGO, ILL.

MARKET REPORT

Gain in Crude Glycerin Reserve Reported

THE long awaited decision on the duty status of Ceylon citronella oil was handed down by the United States Customs Court. The material impounded by the government because it contained kerosene should be admitted free of the compound duty according to the decision. The court contended that the adulteration has been recognized and accepted by the trade for years. Despite this ruling, however, much uncertainty continues to exist in the market since dealers explained they have no assurance that further arrivals will not be held up by the Customs or that the government will appeal the case. Shippers at the primary center are likewise reluctant to accept orders for fear that further difficulties might be encountered.

Despite widespread labor difficulties, and the poor progress that has been made toward reconversion, the demand for various raw materials necessary in the manufacture of perfumes, proprietaries, flavoring extracts and closely related lines has been quite satisfactory.

AROMATIC CHEMICALS

Developments in the aromatic chemical market included a rather sharp reduction in prices of the higher alcohols and a further tightening in the position of citral and all of the ionones. Basic materials from coke ovens have tightened in supply because of the recent steel strike. The slower pace at which methyl esters were coming through made it necessary for some houses to restrict offerings of methyl anthranilate and dimethyl anthranilate. The steel strike likewise affected the supply position of coumarin. Despite an improvement in production, vanillin shipments continued to run considerably behind the demand. Some houses have been able to resume offers of phenylpropyl alcohol following its absence from the market for over a year. Linalool turned lower as some trade factors were inclined to take on a more favorable view of the outlook regarding future supplies.

Release of approximately 75,000,000 pounds of lauric acid oils by the government for soap manufacture tended to brighten the outlook regarding future glycerin supplies, although trade factors explained that no real relief in the tight position could come much before late May or early June. The production of soap remained limited to 78 per cent in the household field, and 84 per cent in the bulk field but as soon as the lauric acid oils reach the soap kettles, the higher glycerol content of these oils as compared with the present types of fats now being used, a greater yield of glycerin should result per 100 pounds of fats saponified.

CRUDE GLYCERIN

Stocks of crude glycerin increased 2,876,000 pounds in December thus marking the first gain in reserve supplies in some time. The data for December which had just recently been completed by the Bureau of Census placed stocks on hand at the end of that month at 45,718,000 pounds (absolute basis) in contrast to 42,842,000 pounds at the end of the preceding month, November. Production, however, declined from 13,427,000 pounds in November to 11,759,000 pounds in December but there were some imports in December and because of the year-end holidays, consumption was reported as somewhat under November.

CITRIC ACID SUPPLY

Regular consumers have been able to obtain greater quantities of citric acid in recent weeks but no increase has been noted in offerings by dealers due largely to the narrow spread prevailing between makers prices and the quotations at which they are able to sell. Tartaric acid and cream tartar displayed a steadier tone. Demand was not very brisk but many of the cheaper lots that had previously been hanging over the market have quietly disappeared. Most industrial chemicals were scarce and firm although in the case of the alkali group, caustic soda was extremely scarce in the face of a plentiful supply of chlorine. In some quarters there was some talk of combination deals. Buyers interested in any sizeable quantities of caustic soda could have obtained these lots if they agreed to take an equal amount of chlorine, it was learned. There was a sufficient supply of caustic potash available to meet requirements but carbonate potash turned considerably firmer as the result of a heavier demand for the account of tobacco growers.

TREND IN GUMS

Developments in gums included a firmer trend in arabic and a continued heavy call for karaya. Tragacanth supplies are believed sufficient to meet the demand between now and the time when new crop goods should be available. Fairly large quantities of both gum arabic and karaya arrived here over the past month. Because of the good demand for karaya, the arrivals failed to have any influence on spot prices. The upward trend in arabic was traced to steadily rising prices in the Sudan rather than by any unusual developments in the spot market.

Although new production of menthol is well underway in Brazil the trend of the local market has been upward over the past few weeks.

Genuine **ORRIS** *again* **AVAILABLE!**

OIL ORRIS ROOT LIQUID ABSOLUTE
ORRIS CONCRETE
ORRIS OLEORESIN *(Resinoid)*

We are gratified to announce that, having received a shipment of Florentine root, we are again able to produce these well known Bush specialties.

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MAGNESIUM ALUMINUM SILICATE GEL

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SHAVING CREAMS
CREAM SHAMPOOS
HAND CREAMS
LOTIONS
EMULSIONS

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IMPROVED SUSPENSION, STABILIZATION, THICKENING and DISPERSION

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- Velours
- Trade Marks
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ESSENTIAL OILS

Almond Bit, per lb.	3.50@	4.00
FFPA	4.75@	5.10
Sweet True	1.10@	1.30
Apricot Kernel	.48@	.50
Amber, rectified	2.25	Nom'l
Angelica Root	125.00@	150.00
Anise, U. S. P.	3.85@	4.10
Imitation	1.75@	2.10
Aspic (spike) Span.	2.85@	3.25
Avocado	1.05@	1.25
Bay	1.40@	1.75
Bergamot	8.25@	10.00
Artificial	4.00@	9.25
Birch, sweet	2.50@	5.00
Birchtar, crude	2.25	Nom'l
Birchtar, rectified	4.25	Nom'l
Bois de Rose	5.50@	6.00
Cade, U. S. P.	.90@	1.20
Cajeput	3.00	Nom'l
Calamus	22.00@	25.00
Camphor "white," dom.	.25@	.30
Cananga, native	11.00@	12.50
Rectified	13.00@	14.25
Caraway	8.75@	11.50
Cardamon	18.00@	20.00
Cassia, rectified, U. S. P.	11.00@	12.75
Imitation	3.75@	
Cedar leaf	1.10@	1.25
U. S. P.	2.50@	3.10
Cedar wood	1.00@	1.25
Celery	16.50@	18.00
Chamomile	150.00	Nom'l
Cinnamon bark oil	32.50@	35.00
Citronella, Ceylon	1.70@	1.85
Java	3.25	Nom'l
Cloves, Zanzibar	1.60@	1.75
Coriander	25.00@	30.00
Imitation	12.00@	14.00
Croton	4.25@	4.80
Cumin	9.00@	11.00
Dillseed	8.00	Nom'l
Erigeron	2.25@	5.00
Eucalyptus	1.25@	1.35
Fennel, Sweet	4.00@	4.50
Geranium, Rose, Algerian	15.50@	17.00
Bourbon	16.00@	17.80
Turkish	6.75@	7.25
Ginger	13.00@	15.00
Guaiac (Wood)	3.25@	3.85
Hemlock	2.65@	3.34
Substitute	.55@	.60
Juniper Berry	11.50@	12.75
Juniper Wood, imitation	1.00@	1.25
Laurel	5.00	Nom'l
Lavandin	6.25@	7.10
Lavender, French	15.00@	17.25
Lemon, Calif.	3.25@	
Lemongrass	3.00@	3.75
Limes, distilled	7.00@	7.75
Expressed	13.75@	15.00
Linaloe	5.80@	6.10
Lovage	95.00	Nom'l
Marjoram	7.25@	7.50
Neroli, Bigarde P.	300.00@	375.00
Petale, extra	265.00@	300.00
Olibanum	4.75@	5.10
Opopanax	30.00@	38.00
Orange, bitter	3.50@	3.95
Brazilian	1.50@	1.65
Calif., exp.	1.80@	2.00
Orris Root, abs. (oz.)	135.00@	
Artificial	36.00@	40.00
Pennyroyal, Amer.	3.50@	3.80
European	3.65@	3.85
Peppermint, natural	6.25@	6.75
Redistilled	2.50@	7.10
Petitgrain	2.75@	3.10
Pimiento Berry	7.00@	7.60
Pinus Sylvestris	4.25@	5.00
Pumillonis	4.25@	4.75
Rose, Bulgaria (oz.)	30.00@	40.00
Synthetic, lb.	45.00@	55.00
Rosemary, Spanish	1.60@	1.75
Sage	3.00@	3.50
Sage, Clary	25.00@	30.00
Sandalwood, N. F.	9.52@	
Sassafras, natural	2.00@	2.15
Artificial	.90@	1.10
Snake root	12.00	Nom'l
Spearmint	4.00	Nom'l
Thyme, red	3.00@	3.15
White	3.25@	3.50
Valarian	40.00	Nom'l
Vetivert, Java	50.00	Nom'l
Bourbon	35.00@	40.00
Wintergreen	4.85@	8.50
Wormseed	5.25	Nom'l
Ylang Ylang, Manila	38.00	Nom'l
Bourbon	20.00@	28.00

(Continued on page 105)

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POWDER BOX COVERS
EYEBROW PENCIL HOLDERS
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(Continued from page 103)

TERPENELESS OILS

Bergamot	20.00@	25.00
Grapefruit	65.00@	
Lavender	28.00	Nom'l
Lemon	40.00@	45.00
Lime, ex.	85.00@	100.00
Distilled	60.00@	67.00
Orange sweet	82.00@	112.00
Peppermint	12.25@	13.50
Petitgrain	3.85@	4.25
Spearmint	5.00@	6.00

DERIVATIVES AND CHEMICALS

Acetaldehyde 50%	1.90@	2.75
Acetaphenone	1.65@	1.80
Alcohol C 8	4.25@	
C 9	14.00	Nom'l
C 10	4.25@	
C 11	11.50	Nom'l
C 12	4.25@	
Aldehyde C 8	15.00@	20.00
C 9	27.00@	30.00
C 10	15.00@	18.00
C 11	22.00	Nom'l
C 12	25.00@	30.00
C 14 (so called)	8.00@	9.50
C 16 (so called)	7.65@	8.25
Amyl Acetate	.55@	.75
Amyl Butyrate	.90@	1.10
Amyl Cinnamate	4.50@	5.80
Amyl Cinnamate Aldehyde	2.35@	2.80
Amyl Formate	1.00@	1.50
Amyl Phenyl Acetate	3.65@	4.00
Amyl Salicylate	.80@	1.00
Amyl Valerate	2.10@	2.75
Anethol	2.65@	3.25
Anisic Aldehyde	3.35@	4.00
Benzophenone	1.15@	1.30
Benzyl Acetate	.55@	.65
Benzyl Alcohol	.75@	1.00
Benzyl Benzoate	1.05	@1.20
Benzyl Butyrate	2.10@	2.25
Benzyl Cinnamate	5.15@	5.50
Benzyl Formate	2.50@	3.75
Benzyl-Iso-eugenol	10.25	Nom'l
Benzylidenacetone	2.10@	3.05
Borneol	1.80	Nom'l
Bornyl Acetate	2.25	Nom'l
Bromstyrol	6.00@	6.50
Butyl Acetate	.15@	.17
Cinnamic Alcohol	3.00@	3.60
Cinnamic Aldehyde	1.10@	1.65
Cinnamyl Acetate	8.75@	10.00
Cinnamyl Butyrate	12.00@	14.00
Cinnamyl Formate	10.00@	13.00
Citral, C. P.	6.50@	6.75
Citronellol	6.25@	7.00
Citronellyl Acetate	8.60@	9.20
Coumarin	3.00@	3.50
Cuminic Aldehyde	8.00@	11.25
Diethylphthalate	.24@	.30
Dimethyl Anthranilate	4.55@	5.00
Ethyl Acetate	.25@	.35
Ethyl Anthranilate	5.50@	7.00
Ethyl Benzoate	.75@	1.00
Ethyl Butyrate	.75@	.90
Ethyl Cinnamate	3.60@	3.80
Ethyl Formate	.65@	.80
Ethyl Propionate	.80	Nom'l
Ethyl Salicylate	.90@	1.00
Ethyl Vanillin	5.25@	6.00
Eucalyptol	2.65@	2.85
Eugenol	2.85@	3.35
Geraniol, dom.	6.25	Nom'l
Geranyl Acetate	3.60	Nom'l
Geranyl Butyrate	8.50	Nom'l
Geranyl Formate	13.40	Nom'l
Heliotropin, dom.	3.75@	4.00
Hydrotropic Aldehyde	7.60@	8.10
Hydroxycitronellal	8.50	Nom'l
Indol, C. P.	20.00@	23.00
Iso-borneol	1.10	Nom'l
Iso-butyl Acetate	1.25@	2.00
Iso-butyl Benzoate	1.50@	2.60
Iso-butyl Salicylate	2.70@	3.00
Iso-eugenol	3.85@	4.00
Iso-safrol	3.00	Nom'l
Linalool	7.50@	8.00
Linalyl Acetate 90%	8.00@	8.50
Linalyl Anthranilate	15.00@	
Linalyl Benzoate	10.50@	
Linalyl Formate	9.25@	12.00
Menthol, Brazilian	5.00@	5.50
Methyl Acetophenone	1.80	Nom'l
Methyl Anthranilate	2.25@	2.40
Methyl Cellulose, f.o.b. shipping point	.60	Nom'l
Methyl Cinnamate	3.25@	3.80
Methyl Eugenol	3.50@	6.75
Methyl Heptenone	3.50	Nom'l
Methyl Heptine Carbonate	45.00@	60.00
Methyl Iso-eugenol	5.85@	10.00
Methyl Octine Carbonate	24.00@	30.00
Methyl Paracresol	2.50	Nom'l
Methyl Phenylacetate	3.80@	4.00
Methyl Salicylate	.37@	.38
Musk Ambrette	4.25@	4.50
Ketone	4.35@	4.80
Xylene	1.65@	2.50
Neroline (ethyl ether)	2.00@	3.15
Paracresol Acetate	2.55@	3.00
Paracresol Methyl Ether	2.60@	2.85
Paracresol Phenyl-acetate	6.50@	8.50
Phenylacetaldehyde 50%	3.00	Nom'l
100%	5.00	Nom'l
Phenylacetic Acid	2.10@	3.00
Phenylethyl Acetate	2.50	Nom'l
Phenylethyl Alcohol	2.80@	3.00
Phenylethyl Anthranilate	16.00@	

(Continued on page 107)

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(guaiacol)	2.35	Nom'l
Lignin	2.35	Nom'l
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Almond meal	.25@	.35
Ambergris, ounce	12.00@	16.00
Balsam, Copaiba	1.05@	1.10
Peru	1.15@	1.30
Beeswax bleached, pure U. S. P.	.62@	.65
Yellow, refined	.56@	.58
Bismuth, subnitrate	1.20@	1.22
Borax, crystals, carlot ton	55.50@	58.00
Boric Acid, U. S. P., cwt.	6.95@	7.55
Calamine	.18@	.20
Calcium, phosphate	.08@	.08¾
Phosphate, tri-basic	.09@	.10
Camphor, domestic	.69@	.84
Castoreum, Canada	7.80@	10.00
Cetyl, Alcohol	1.75@	1.80
Chalk, precip.	.03½@	.06½
Cherry Laurel Water, jug, gal.	2.60@	3.10
Citric Acid	.21@	.24
Civet, ounce	18.00@	25.00
Clay, colloidal	.07@	.15
Cocoa, Butter, lump	.25½@	.27
Cyclohexanol (Hexalin)	.30@	.50
Fuller's Earth, ton	15.00@	33.00
Glycerin, C. P., drums	.18¼@	.18¾
Gum Arabic, white	.42@	.45
Amber	.12¼@	.13
Powdered, U.S.P.	.18@	.21
Gum Benzoin, Siam	5.00	Nom'l
Sumatra	1.40	Nom'l
Gum Galbanum	1.10@	1.35
Gum Myrrh	.50@	.55
Henna, pwd.	.28@	.30
Kaolin	.05@	.07
Labdanum	5.00@	7.00
Lanolin, hydrous	.30@	.34
Anhydrous	.31@	.35
Magnesium, carbonate	.09@	.10¾
Stearate	.24@	.27
Musk, ounce	45.00@	50.00
Olibanum, tears	.21@	.35
Siftings	.12½@	.14
Orange Flower Water, gal.	1.75@	2.25
Orris Root, Italian	.70	Nom'l
Paraffin	.06@	.09
Peroxide	1.10@	1.75
Petrolatum, white	.06¼@	.08½
Quince Seed	1.50@	1.75
Rice Starch	.10	Nom'l
Rose Leaves, red	3.45@	4.00
Rose Water, gal.	6.50@	8.00
Rosin, M. per cwt.	7.49@	
Salicylic Acid	.35@	.40
Saponin	2.00@	2.50
Silicate, 40°, drums, works, 100 pounds	.80@	1.20
Soap, neutral, white	.20@	.25
Sodium Carb. 58% light, 100 pounds	1.53@	2.35
Hydroxide, 76% solid, 100 pounds	2.60@	3.75
Spermaceti	.26@	.27
Stearate Zinc	.29@	.30
Styrax	1.10@	1.35
Tartaric Acid	.62½@	.63½
Tragacanth, No. 1	3.50@	3.75
Triethanolamine	.19½@	.20½
Violet Flowers	1.75@	2.00
Zinc Oxide, U. S. P. bbls.	.40½	Nom'l

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Cocoanut, Manila Grade, c.i.f., tanks	.0835@	
Corn, crude, Midwest, mill, tanks	.12¾@	
Corn Oil, distilled, drums	.16¼@	.16½
Cotton, crude, Southeast, tanks	.12¾@	
Grease, white	.08⅞@	
Lard	.15 22½@	
Lard Oil, common, No. 1 bbls.	.14@	
Palm Niger, drums	.0865	
Peanut, blchd., tanks	.1501@	
Red Oil, distilled, drums	.13¼@	.14¼
Stearic Acid Triple Pressed	.18⅝@	.19⅝
Double Pressed	.15⅞@	.16⅞
Tallow, acidless, barrels	.14¼@	
Tallow, N. Y. C., extra	.08⅝@	
Whale oil, refined	.1232	Nom'l

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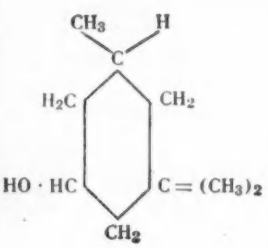

FIG. 1

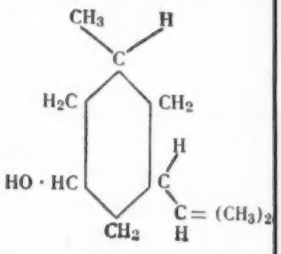

FIG. 2

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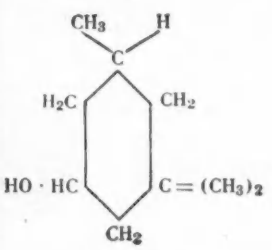

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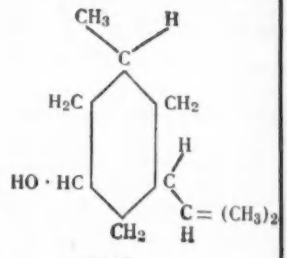

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CHAPTER I

The Market

An important question that arises in every business, new or old, is, "What and where is my market? In all too many cases a snap answer is given, such as *X* geographical area, or *X* number of middlemen, and so on. On analysis you will see that neither area nor dealers are your market except in a superficial sense. Goods are not sold either when shipped into a particular community or when put on a dealer's shelves. They are sold only when the ultimate consumer buys them. People, then are your market. This chapter tells you how to estimate your market from certain data about the people in a trading area: the number, age groups, employment, sex, incomes. It suggests what makes people willing to buy; it gives data about the size of the over-all drugs and cosmetics market; and finally it suggests how to use these data to work out, roughly, for any community the probable size of the market for your product.

ONE of the first things a producer or seller of goods must do is to try to estimate the size of the market to which he would sell his product. For drugs, medicines, and cosmetics this would seem to be easy enough. These are old, established, more or less necessary lines of merchandise. People have used them and businessmen have sold them for centuries. Herbs and medicines are referred to in the Old Testament of the Bible; cosmetic containers have been found in the tombs of ancient Egyptian kings. It would seem then that all that is needed is to look up the middlemen in the areas in which you want to sell, and, pronto! the problem would be solved. Calculating your market, however, is not as simple as that. The dealers are not the market. They are only part of the machinery for reaching the market.

THE PEOPLE AS THE MARKET

The market for any product consists of the people who are able and willing to buy the product. Even to say this is a simplification of what must be considered. To calculate the market for any product it is necessary to know (1) the number of people in the trading area in which you decide to sell; (2) their distribution by age groups, employment, sex; (3) their incomes and the proportion of them they feel free to spend; and (4) what makes them willing to buy.

THE NUMBER OF PEOPLE IN A SPECIFIC TRADING AREA

It is easy enough to find out how many people there are in any given area in the United States. The United States Census Bureau takes a census every ten years. The reports that are published furnish many quantitative data about the people. According to the 1940 census there are over 150,000,000 people who might become our market, that is, in the continental United States, its territories, and its possessions. It is estimated that by 1950 the population of the continental United States alone will be more than 140,000,000. There are many other areas in the world where people buy our products. These areas are treated in Chapter 18.

The census reports break down the population total by states, counties, cities, towns, villages, and farms. Also, estimates of population are made for in-between years; even an unusual population movement like that of the years 1941 to 1943 is estimated.[1] The number of people in a given area at a given time can, therefore, be estimated whenever the information is desired.

DISTRIBUTION BY AGE GROUPS, EMPLOYMENT, SEX

For drugs and medicines the total population constitutes a prospective market all the time. Children and older people are usually more, and those in between usually less, of a market. A study should, therefore, be made of the number of people in each five-year age group in any specific trading area. This information can be obtained from the census reports, or, on inquiry, directly from the Census Bureau. The kind of employment people engage in may also have an effect on the consumption of drugs and medicines. For example, the coal miner might need to offset the lack of sun and the dust inhaled into his lungs, whereas the lifeguard on the ocean beach may need creams to protect his skin from the sun and, unless careful, medicines to cure a bad sunburn. The Census Bureau can also give the principal occupations and the number engaged in each occupation for most areas in the United States.

The market for toiletries is in some ways more circumscribed than the market for drugs and medicines. For many products the market is confined largely to infants and women. They use most of the powders, creams, shampoos, rouges, lipsticks, nail polishes, and so on. The maker of such products must, therefore, break down his market not only by age groups, but also by sex for each of the age groups. If he produces a baby powder, he must know the present and the prospective birth-rates and, also, the number of all children, say, under two years of age. If he produces rouge, lipstick, and nail polish, he must know the number of women between fifteen and sixty yars of age. If he produces a deodorant, women over fifteen and some men over twenty are his prospects.

Any of this information about age groups and sex can be secured from the census reports.

INCOME OF PROSPECTS

Have the prospects in his trading area the incomes to buy his wares? This is the next question the seller must ask. It is not so easily answered as some of the other questions. For one thing the government does not collect income statistics regularly. For another thing people are not inclined to tell others what their incomes are. But some men have speculated over a period of years on the size of the national income and how it is distributed among the people. Fairly reliable estimates have been worked out. Based on these studies the United States Department of Commerce prepares an annual estimate of the national income and the forces that contribute to it; and every so often the Department breaks it down by states on a per capita basis. The reports on incomes are published annually in the Department's *Survey of Current Business*. From these figures of population and income you could calculate roughly, for particular areas, the market for your product in those areas.

The government and others have gone further and made a number of family budget studies, which show the expenditures for a representative number of families scattered over the country. The most recent of such studies was made for the year 1935-1936 by the United States Department of Labor for cities and the United States Department of Agriculture for rural areas.[2] These studies show just what families spend for various items including health maintenance and personal appearance. Putting many of these studies together you can notice a pattern of expenditures, with certain percentages of income for food, clothes, rent, and so on to health and personal appearance. Of course the percentages will vary as economic conditions vary, but from these studies you can make certain estimates that taken with other estimates will help you to find out the extent of your market.

The Census Bureau since 1929 has made studies of business every five years and from the reports of these censuses you can learn, in a general way, what people spend in each area in the different kinds of stores such as drug stores, variety syndicate stores, general stores, barber shops, and beauty shops.

From this kind of data it is possible to figure out the total amount of business done in a market in the product you would like to sell. If in addition to this the position of competitors in each area can be estimated then it would be possible to calculate quite closely how much business might be expected from a given area.

Another way to arrive at the market for a product is to note the relationship between total retail sales in, say, drug stores and their relation to disposable income. Over a period of years these sales have varied in certain proportions to disposable income. On the assumption that they will continue so to vary, given the estimated income for a year, you can estimate drug store sales for that year. For old established products you could then map your sales, work out the relationship of them to income and estimate your share on the basis of estimated income.[3] Totally new products need the experience of several years before usable estimates can be worked out, as may be noted below. Since elaborate statistical procedures are here involved this type of estimating should be done by a well-trained statistician.

WHY PEOPLE BUY DRUGS AND COSMETICS

However, valuable as all of this is, it is not enough. It is necessary also to know why people want to buy drugs, medicines, and toiletries. Drugs and medicines are purchased largely to restore or to maintain good health. Few things in life are more desirable or more precious than good health. Without it one is usually in misery and unable to carry on his work or look after other interests. With good health almost anything seems possible. Few of us want to die. Sickness increases the possibility of imminent death; to prevent that we will do everything we can. Therefore we use drugs and medicines.

What people will do to preserve health is sharply outlined by three recent developments in the drug field. In the early 1920's the sale of vitamins was less than $500,000 annually. In 1945 this product was selling at a rate of $200,000,000 annually.[4] The sulfa drugs were almost unknown in 1937, yet more than ten million pounds in bulk chemical form were produced in 1943, involving many millions of dollars.

Penicillin got into mass production, in many new and large factories only in 1944, and only in 1945 was it made generally available to civilians. Up to then all of it had been manufactured for the armed forces. During 1943 and 1944 many pleas were made to the president of the United States to order the armed forces to release some of the precious drug in pitiful civilian cases. The sales of this drug will, apparently, also mount into the millions annually as it comes into complete civilian use. It should be noted that a great amount of publicity attended the introduction of these new products and helped substantially in their wholehearted acceptance by the public.

Another spectacular increase in sales over a relatively short period of time was shown by the feminine hygiene products. In the early 1920's the total sales amounted to less than $10,000,000. By 1938 it was estimated that sales amounted to about $250,000,000.[5]

Even these tremendous sales of drugs and medicines cannot be accepted as suggesting the exhaustion of the possibilities in this field. In 1935-1936 a national health survey was made.[6] The report shows in detail the number of people affected by various diseases and should be highly suggestive to the drug manufacturers and distributors in indicating the extent of the market for some of their products. Consider, for example, the 6,850,000 reported to be afflicted with rheumatism and the almost 100,000,000 days lost from creative activity annually by these sufferers. Or again consider the 3,450,000 hay fever and asthma victims. They do not lose so many days from work, but the inconvenience from which they suffer causes them to spend millions of dollars annually for various drugs and medical treatments.

On the other hand, there are many chronically ill who spend little or nothing for cure and very little more for relief until advanced stages of the illness are reached. This is due partly to the fact that in many cases people do not know what is available and on what they can depend, or their financial condition is such that they have little money for drugs and medicines. Better health education could bring great changes in this respect and increased incomes.

Next to health the most precious and desirable thing, at least among women, is appearance. Some people would even prefer good looks to good health. Good looks, or, better still, that characteristic called glamour is a composite of a number of items. Good looks are desired partly to satisfy the ego, but principally to make a favorable impression on others. We want to attract attention and admiration, we want others to know us, and if we are young enough we want admiration to lead to marriage.

What constitutes good looks is usually settled by people. People say he or she is good looking. The basis of the judgment is usually custom. With us custom has come to decree, for the time being, as far as nature permits, a long, slim body with curves faintly discernible, hair smooth and rather light in color, eyes bright and questioning, teeth white and shiny, skin clear and running to the ruddy complexion type with a slight touch of the brown of sunburn, and bodily movements quick and vigorous.

The clothes should match or complement the color of the hair, the eyes, and the skin with the ensemble effect from hat to shoes including, among the female of the species, fingernail and toenail colors to match. No body or breath odor should be discernible but rather the odor of a perfume that seems to fit a particular type of personality.

Custom decrees something quite different in some other places. Short, fat bodies, dark in color, glistening from a coat of grease, and marked by strong, and to us repugnant body odors are not interested in any ensemble effect of clothes, but prefer rather the use of body coverings that to us seem anything but attractive. Yet the numbers of these tribes look beautiful to the others as truly as our associates look to us.

How to acquire the good looks set by custom? Sleep, diet, and exercise help; but they are not enough. So drugs and toiletries are purchased in large quantities in an attempt to secure the desired effects.

Since custom and habit, fad and fashion play a part in influencing our purchases of toiletries, and since these are continually in process of change, producers and distributors must always be on the watch to take advantage of the changes as they occur.

Even the growing child must be studied as a part of the market. The juvenile market has always been a good one for medicines. Children now hold a more dignified position in society than formerly because of their education. Now all finish elementary and many go to high school, and nearly all attend the movies. These developments have acquainted the child with make-up materials and their value and they too, want to use them. This market is important not only because of immediate consumption, but also because these boys and girls are the market of tomorrow. The impressions made now are likely to carry over and contribute to the benefit or harm of a concern's future market.

THE SIZE OF THE DRUGS AND COSMETICS MARKET

We have indicated how important these industries are to the people who make up the market. But how important is the market to those who would produce and sell such products? To be sure the market is not as big as the food, the clothing, or the automobile markets. But drugs, medicines, and toiletries together do add up to a respectable business in size—in fact to hundreds of millions of dollars annually. It is easy enough to look to the past and note almost the precise amount that has been spent for such products. Let us look for a moment at the last census figures. In 1939 manufacturers of drugs and medicines produced goods to the value of $364,985,404; producers of perfumes, cosmetics, and other toilet preparations produced to the value of $147,465,585; and manufacturers of insecticides, fungicides, and other related items rolled up $93,443,777—with a total value at factory prices of nearly $606,000,000.

The wholesalers of drugs and sundries did a business of over $520,000,000 in 1939. By 1943 this had increased to more than $800,000,000.[7] Retail drug stores did a business of more than $2,950,000,000 in 1945 according to the U. S. Department of Commerce of which over 55 per cent was in drugs, medicines, and toiletries. Other stores like the variety, general and department stores also did a substantial business in these products, while barber and beauty shops of course could not have existed without such products.

We are, however, more interested in the future. If a gross national income of $150,000,000,000 is to be realized then consumption will have to increase greatly in our fields. Some estimates have been made. One student suggests that the cosmetic business will amount to as much as $690,000,000 in 1946. In fact he says that if the estimated 68,000,000 females in the United States spend as much in 1946 as the war workers did in 1943 the business would amount to $1,200,000,000.[8] Another student expects that the drug industry will do $2,156,000,000 worth of business in 1946.[9] Still another student of the subject expects that drug store sales in the postwar period will reach approximately $3,200,000,000 annually.[10] If we add to the drug store figure the sales of the other stores selling drugs and toiletries the total amount of business may exceed $4,000,000,000 annually.

If these figures should seem to border on the fantastic then consider two estimates of actual sales. The Toilet Goods Association estimates sales of perfumes, cosmetics, and toilet preparations to have been 546.3 million dollars in 1944 as against 39.6 million dollars in 1914.[11] An increase of 1400 per cent in thirty years! The National Wholesale Druggists Association estimated drug store sales in Washington, D. C., to have been $52,673,000 in 1943.[12] The per capita sales were $67.50 as against $20.50 for the country as a whole. If the per capita sales for the country could be raised to that of Washington drug store business would amount to nearly $9,000,000,000. Add the business of other outlets and the total would probably come to over $10,000,000,000. Washington is exceptional and we can not hope to duplicate throughout the country the consumption there. But we can study what causes that high consumption, and make whatever changes are necessary in the drug and toiletry industries to step up consumption throughout the country. Perhaps consumption can be increased by 25 per cent to 50 per cent. That would seem not impossible.

The reader now may well ask, "How profitable are these fields?" Some notion of this may be secured from Table 1. This table shows net profits for some of the leading producers and distributors of proprietaries and toiletries during the worst depression this country has so far experienced. The net profits are in some cases 25 per cent

TABLE I

NET INCOME OF SELECTED COMPANIES FOR CERTAIN YEARS AVAILABLE FOR DIVIDENDS*

Companies	1937	1936	1935	1934	1933	1932	1931
Abbott Laboratories	$1,612,360	1,415,276	1,135,501	896,959	549,578		
Amer. Home Products	2,875,399	2,825,261	1,729,708	2,033,317	1,996,324	2,648,257	3,374,912
Bristol, Myers Co.	2,197,947	2,275,251	2,232,573	1,966,165	2,156,151		
Coty, Inc.	516,077	216,994	D-236,685	89,762	222,776	521,386	991,721
Lambert Co.	1,191,170	1,309,833	1,570,865	2,281,200	2,313,913	3,921,119	6,381,003
Lehn & Fink	532,623	685,086	412,870	747,618	807,286	1,244,376	1,451,164
Parke, Davis & Co.	9,068,304	9,213,124	8,781,293	8,719,368	6,865,538	5,745,085	6,131,564
H. Rubinstein, Inc.	309,390	215,459	56,494	159,357	182,408	120,945	415,961
Sharp & Dohme, Inc.	999,168	1,123,959	747,846	941,555	975,379	703,479	777,492
E. R. Squibb & Sons	1,312,822	1,219,765	657,585	542,069	1,124,456	1,236,457	1,651,235
Sterling Products	9,016,243	9,241,870	8,308,073	8,289,202	8,161,977		
Vick Chemical Co.	2,953,515	2,709,333	1,044,751	2,417,834	2,339,296		
United Drug, Inc.	1,312,314	2,065,474	1,504,518	1,833,960	D-216,216		
Crown Drug Co.	229,160	269,697	185,512	157,644			
Peoples Drug Store, Inc.	1,059,603	1,328,675	1,121,365	1,194,937	643,589	511,795	621,923
Walgreen Co.	2,755,822	2,784,903	2,320,372	2,558,894	1,820,482	1,663,198	2,045,411

*Poor's 1938 Industrial Volume.

of net sales. While these are for large companies, every reader will, probably, be able to recall some smaller producer and several individual retailers who have been in business many years at the same old stand and give every appearance of having enjoyed a prosperous time nearly all of those years. The table shows only *listed* companies. It is said that some of the smaller concerns make even larger relative profits. There would seem, then, to be a substantial future ahead for these industries.

HOW TO ESTIMATE YOUR MARKET

What we have so far said is interesting and highly suggestive. But how can this information be used? We propose now to show how to use some of the types of data mentioned above to arrive roughly at the market for the product you produce and want to sell.

Let us assume city X in the Middle West. It contains 27,000 families, altogether 100,000 people, 48,000 males and 52,000 females. As income producers, one third are in the $750-a-year class, one third in the $1500-a-year class, and the balance in the $2500 to $3000 class with a few running higher.[13] They have certain customs, discovered by a field survey, that taboo bright red lips and colored fingernails, but otherwise their consumption and expenditures pattern fit in with the average, to which some addition must be made because the community contains a higher proportion of females than the national average. With these data it is possible to say at once that lipstick and colored nail polishes have no market here. But there appears to be a market for all other toiletries and medicines.

The Bureau of Labor Statistics study shows for the middlewestern city of Columbus the expenditures which appear below.[14]

This calculation is purely for illustrative purposes. The producer planning to go into a market would calculate on the basis of all the different income classifications listed in the Department of Labor study, and for any year make allowance for changes in incomes. The study shows that of incomes up to $3000 about 1 per cent is spent for toiletries. After that the percentage decreases to about ½ of 1. For medicines approximately 1 per cent of incomes is spent up to incomes of about $1500 and then the percentage declines to about ½ of 1. As the dollar income increases a considerable increase in dollars expended for toiletries would take place, and vice versa if dollar income decreases. For medicines this would be true also but to a less extent. People must have medicines when ill and buy them if they can. But an increase in dollar income might enable them to buy all they need. Further increase in expenditures for medicines would follow an increase in population and new medical discoveries. During the past ten or fifteen years medical discoveries have opened new fields for the sale

Income	Expenditures per Family Toilet Articles and Preparations	Expenditures per Family Medicines and Medical Supplies
$750 + and —	$10.80	$8.60
1500 + and —	18.10	13.40
3000 + and —	28.30	17.50

Total expenditures for our assumed city can now be calculated as follows:

	Toilet Articles and Preparations
9000 families at $10.80	$97,200
9000 families at 18.10	162,900
9000 families at 28.30	254,700
TOTAL	$514,800

	Medicines and Medical Supplies
9000 families at $ 8.60	$ 77,400
9000 families at 13.40	120,600
9000 families at 17.50	157,500
TOTAL	$355,500

WHERE THEY BUY

CLASSIFICATIONS	Dept. Store	Drug Store	5 & 10¢ Store	All Others	GRAND TOTAL	PERCENT USING
Astringents	37.2%	43.5%	12.3%	7.0%	100.0%	17.9%
Bath Salts, Softeners	34.5	45.2	10.2	10.1	100.0	33.5
Bob Pins	6.3	16.0	75.4	2.3	100.0	79.7
Brilliantine	13.3	36.7	47.5	2.5	100.0	9.1
Cleansing, All Purpose or Cold Cream	20.4	43.6	33.3	2.7	100.0	76.2
Cleansing Tissue	10.7%	42.4%	37.1%	9.8%	100.0%	83.2%
Combs	8.8	27.1	59.0	5.1	100.0	70.8
Cuticle Softener	14.1	27.8	57.4	0.7	100.0	26.5
Dentifrice (liquid)	4.3	47.8	45.4	2.5	100.0	9.3
Deodorant	11.9	45.8	40.9	1.4	100.0	86.0
Depilatory	22.4%	47.0%	30.6%	0.0%	100.0%	8.8%
Eye Shadow	20.0	21.5	57.7	0.8	100.0	8.4
Eye Wash	3.1	89.5	6.8	0.6	100.0	18.8
Eyebrow Pencil	9.0	17.6	72.7	0.7	100.0	27.2
Face Powder	27.8	45.5	23.4	3.3	100.0	92.4
Hair Curler	11.7%	12.5%	75.0%	0.8%	100.0%	10.4%
Hair Oil	10.1	58.2	26.0	5.7	100.0	11.8
Hair Rinse	5.9	44.4	40.6	9.1	100.0	19.5
Hair Tonic	10.5	65.8	21.1	2.6	100.0	9.9
Hand Cream	14.4	49.1	30.9	5.6	100.0	32.4
Hand Lotion	14.2%	49.5%	33.3%	3.0%	100.0%	72.8%
Home Permanent Wave Set	31.1	46.7	20.5	1.7	100.0	7.9
Leg Make Up	42.2	46.8	11.0	0.0	100.0	21.7
Lipstick	30.8	42.9	22.0	4.3	100.0	94.5
Mascara (Cake)	9.7	25.3	63.0	2.0	100.0	28.9
Mascara (Cream)	8.1%	18.1%	73.3%	0.5%	100.0%	12.1%
Mouth Wash	5.4	72.9	19.1	2.6	100.0	49.4
Nail Polish	24.4	33.8	40.2	1.6	100.0	88.4
Nail Polish Remover	16.4	26.5	55.9	1.2	100.0	78.0
Nail Whitener	15.3	26.8	56.8	1.1	100.0	14.2
Perfume	38.0%	50.4%	10.0%	1.6%	100.0%	67.1%
Powder Puffs	9.7	19.6	70.7	0.0	100.0	69.2
Rouge (Cake)	23.1	41.8	31.2	3.9	100.0	58.8
Rouge (Cream)	49.1	28.5	20.6	1.8	100.0	13.2
Sanitary Napkins	15.0	62.3	17.2	5.5	100.0	86.6
Shampoo	9.7%	62.6%	22.9%	4.8%	100.0%	84.5%
Sunburn Preventive	17.2	66.9	12.4	3.5	100.0	10.4
Sunburn Remedy	11.1	74.3	12.8	1.8	100.0	7.3
Talcum Powder	28.2	47.8	19.5	4.5	100.0	73.0
Tampons	10.4	69.5	18.3	1.8	100.0	16.4
Toilet Water	42.6%	51.1%	3.0%	3.3%	100.0%	49.6%
Tooth Brush	7.1	72.1	17.5	3.3	100.0	95.0
Tooth Paste	6.0	67.3	22.6	4.1	100.0	79.8
Tooth Powder	4.9	64.5	26.6	4.0	100.0	28.5
Vanishing or Foundation Cream	22.9	40.6	33.4	3.1	100.0	38.9
Waveset Lotion	3.6%	27.7%	64.6%	4.1%	100.0%	12.6%
TOTAL	16.7%	44.3%	29.4%	9.6%	100.0%	

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Places of purchase of cosmetic products

of medicines, and people are now thinking more and more in terms of how to keep well. Medicines that are supposed to prevent illness, such as vitamin preparations, tonics and vaccines, are finding an increasing market and may conceivably become as important as any other products in the drug field. With toiletries, as incomes increase, the whole range of such products might be bought to satisfy the desire to be beautiful and glamorous.

The producer who cannot afford to do or have done for him the minute calculating that is possible could make rough calculations as follows: the percentage of family income spent for toiletries works out for all incomes at ¾ of 1. He could get the best figures of over-all family incomes for his market and estimate ¾ of 1 per cent of that as the total market for toiletries plus some expenditure in beauty and barber shops. He would then need to figure the competition for this total business and work out what his share should be and then lay his plans to secure it. The expenditures study referred to breaks down the toiletries outlays by most of the important items so that the rough calculation worked here may be done in some cases for single toiletry items. The same kind of calculation can also be made for medicines and other items that may come under the heads of this field.

Again it should be emphasized that incomes and expenditures change. It has been estimated that for 1943 the national income was $141,000,000,000 and that wage and salary recipients received $100,000,00,000 of this, while recipients of dividends, interest, rents and royalties received only $13,500,000,000,[15] The result of this distribution would give many more people in the $2000 to $4000 income groups than ever before and products like cosmetics would benefit tremendously. This estimate would require a calculation upward in expenditure for the items in which we are interested.

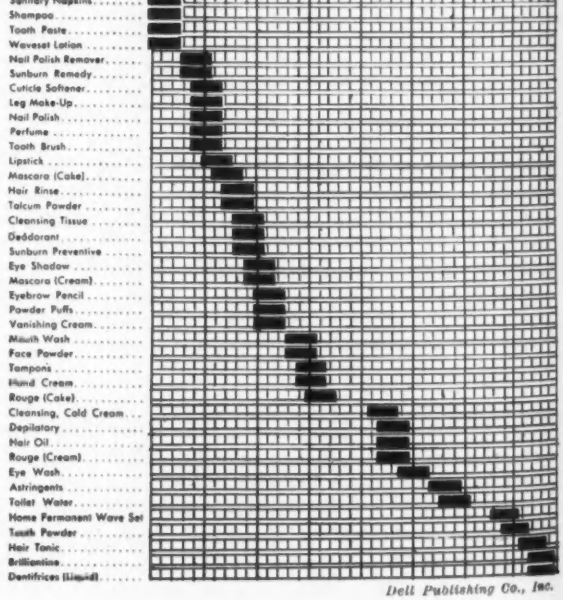
An analysis of the age groups in a trading area gives a definite guide to the market, a clue to the type of advertising to be used, and an indication of the media that might be most successful. Since 1932 Modern Magazines has published an annual "Survey of Beauty," which gives, among other statistics, the purchasing peaks by ages for various types of cosmetic products. The graph on this page is reprinted from the 1945 survey. In the survey are also shown individual graphs of each product. From the composite graph it is seen, for instance, that the peak of the users of nail polish is found in the ages from 18 to 22, of lipsticks in the ages of 20 to 23, and of toilet water in the ages of 42 to 45. In between there will be found many varied age peaks all of them interesting to the potential marketer of any toilet goods product.

The manufacturer then who knows, for example, the number of girls between the ages of 18 and 22 in his trading area will know whether there is much of a potential market for nail polish. If he knows the number of girls between the ages of 20 and 23 he will know something about the prospective market for lipsticks; and so on.

The market as suggested above will also depend on the habits and customs of people. These arise largely as the result of contact with other people and social and geogra-

PURCHASING PEAKS BY AGES

1945



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Purchasing peaks for cosmetic products by ages

phic environments in which people live. It becomes necessary, therefore, to know where people live and some of their habits and customs. Our 140,000,000 people live on farms, in small villages and towns, and in small and large cities. They work on farms, in mines, in all sorts of factories, in offices, schools, and at the professions. Some are very religious and many are members of religious sects that impose various taboos, and still many others claim no adherence to a religious group. The facts relative to these characteristics are to be found principally in the United States Census of Population and of Manufacturers. They can be used to good purpose in helping to indicate the potential markets for drugs, medicines, and toiletries.

THE POSTWAR MARKET

The market for drugs and cosmetics will probably be greater in the postwar period than ever before. In fact, the statistics we quoted would suggest that it could be much greater, particularly if ways could be discovered to persuade men to use more cosmetics. To increase the market is largely the job of the marketing department and personnel of the business. It would seem to be a greater job than ever before that awaits marketing men and women.

The principal reason for suggesting that the market for drug and cosmetic products will be much larger in the postwar period lies in our income and its distribution. The great national income necessary to maintain full employment—$140,000,000,000 or more in terms of 1942 prices—must be distributed in such a way that many of the heretofore low-income receivers receive larger incomes than before. They were the ones who heretofore could not purchase much of drugs and cosmetics. They are the ones who with larger incomes will buy much larger quantities of such products than formerly. They constitute the larger part of our population so it is easy to figure out how greatly they are likely to affect the purchases. Medicines and toiletries are likely to be among the chief beneficiaries of this change in income. In fact Paradiso's study (referred to on page 115) shows an increase of 58 per cent for drug stores between 1939 and 1944 as against 20 per cent for all retail stores and 43 per cent for all stores carrying non-durable items.[16]

[1] See *Regional Shifts in Population, Production, and Markets, 1939-43*, Bureau of Foreign and Domestic Commerce. Washington, D. C.

[2] About forty reports cover this study, and are available in libraries. The National Resources Planning Board summarized the reports in one volume, which is also readily available, under the title *Family Expenditures in the United States* (Washington, D. C., 1941).

[3] See Louis J. Paradiso, "Retail Sales and Consumer Income," *Survey of Current Business*, Oct. 1944.

WHAT PRICE THEY PAY

CLASSIFICATIONS	10c & Under	11-25c	26-50c	51-75c	76c-1.00	Over $1.00	GRAND TOTAL
Astringents	7.1%	4.8%	12.3%	10.0%	45.5%	20.3%	100.0%
Bath Salts, Softener	3.8	6.5	17.3	17.3	40.4	14.7	100.0
Bob Pins	92.2	6.8	0.9	0.1	0.0	0.0	100.0
Brilliantine	38.2	16.0	29.8	7.6	7.6	0.8	100.0
Cleansing, All Purpose or Cold Cream	7.5	15.7	27.3	14.2	23.0	12.3	100.0
Cleansing Tissue	31.5%	57.5%	10.1%	0.4%	0.2%	0.3%	100.0%
Combs	37.5	38.4	15.6	2.6	4.8	1.1	100.0
Cuticle Softener	60.3	14.4	9.7	7.2	7.2	1.2	100.0
Dentifrice (Liquid)	25.5	42.1	28.3	3.5	0.6	0.0	100.0
Deodorant	12.9	12.5	54.1	15.5	4.3	0.7	100.0
Depilatory	20.5%	13.0%	23.7%	9.2%	23.7%	9.9%	100.0%
Eye Shadow	52.4	6.9	17.9	3.4	16.6	2.8	100.0
Eye Wash	4.6	20.9	40.0	27.7	5.7	1.1	100.0
Eyebrow Pencil	76.8	7.8	9.8	2.4	3.2	0.0	100.0
Face Powder	8.1	10.3	12.6	4.7	48.6	15.7	100.0
Hair Curler	62.7%	11.9%	11.9%	5.9%	2.5%	5.1%	100.0%
Hair Oil	21.6	20.6	29.4	10.8	14.4	3.2	100.0
Hair Rinse	40.7	42.3	11.7	1.8	1.8	1.7	100.0
Hair Tonic	7.3	6.6	35.8	22.5	21.2	6.6	100.0
Hand Cream	10.5	12.4	34.9	19.2	20.8	2.2	100.0
Hand Lotion	10.8%	16.5%	38.8%	10.2%	20.5%	3.2%	100.0%
Home Permanent Wave Set	3.1	3.1	7.9	38.6	18.1	29.2	100.0
Leg Make Up	2.7	5.2	14.6	9.1	48.5	19.9	100.0
Lipstick	11.5	6.6	13.1	9.8	48.4	10.6	100.0
Mascara (Cake)	68.2	5.2	4.3	5.2	13.8	3.3	100.0
Mascara (Cream)	76.2%	7.3%	2.3%	4.5%	8.7%	1.0%	100.0%
Mouth Wash	8.9	29.9	37.9	14.1	8.5	0.7	100.0
Nail Polish	43.6	5.7	5.4	31.7	11.7	1.9	100.0
Nail Polish Remover	58.3	14.2	12.2	11.4	3.6	0.3	100.0
Nail Whitener	70.8	14.1	5.4	8.1	1.6	0.0	100.0
Perfume	4.7%	3.6%	2.9%	7.7%	23.6%	57.5%	100.0%
Powder Puffs	72.0	19.5	6.1	0.3	1.2	0.9	100.0
Rouge (Cake)	22.7	9.4	31.7	15.1	18.7	2.4	100.0
Rouge (Cream)	5.8	10.6	16.8	20.7	35.5	10.6	100.0
Sanitary Napkins	0.5	65.9	12.1	2.3	17.6	1.6	100.0
Shampoo	11.0%	13.1%	34.1%	18.6%	19.4%	3.8%	100.0%
Sunburn Preventive	10.0	14.3	42.1	11.4	17.9	4.3	100.0
Sunburn Remedy	8.4	19.6	44.8	15.9	8.4	2.9	100.0
Talcum Powder	11.2	11.6	15.2	8.0	39.9	14.1	100.0
Tampons	2.7	45.6	32.5	5.8	13.4	0.0	100.0
Toilet Water	0.6%	1.8%	6.2%	3.8%	49.2%	38.4%	100.0%
Tooth Brush	1.4	20.0	63.9	10.9	3.1	0.7	100.0
Tooth Paste	6.7	27.1	60.7	4.6	0.8	0.1	100.0
Tooth Powder	12.4	32.1	47.6	4.8	2.7	0.4	100.0
Vanishing Cream or Foundation Cream	10.5	13.8	24.1	13.5	25.4	12.7	100.0
Waveset Lotion	70.8%	21.0%	6.2%	1.0%	1.0%	0.0%	100.0%
TOTAL	28.3%	17.0%	21.9%	9.2%	16.7%	6.9%	100.0%

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Prices paid for cosmetic products

[4] The Index, New York Trust Company, Summer issue, 1944.

[5] Report of survey by *Fortune Magazine*, Feb. 1938.

[6] *National Health Survey, 1935-36*, United States Public Health Service, 1938.

[7] *The Index*, op.cit.

[8] L. A. Barber, in *Market Prospects After The War, p. 13.*

[9] T. W. Delahanty, ibid, pp. 15-16.

[10] *Drug Topics*, Jan. 10, 1944.

[11] From a release by the Toilet Goods Association.

[12] *The 36 Primary Areas of Wholesale Influence in the Drug Field.*

[13] The income data may be secured either directly from the family income study for 1935-36 made by the Bureau of Labor Statistics, U. S. Dept. of Labor, or calculated from that study or from the reports of the national income and its distribution by states made by the U. S. Dept. of Commerce. Since the national income changes, a new calculation may be necessary even for each year. How this calculation can be made without undue difficulty may be seen in the article by Louis Bader, "Family Income and Prosperity," *Journal of American Statistical Association*, Sept. 1933. P. D. Converse has demonstrated how the national income can be fitted to county lines and then estimates of trade for counties be made therefrom. See *County Incomes and Trade Movement in Illinois*, University of Illinois Bulletin 4. 1945.

[14] See *Family Expenditures in Selected Cities*, 1935-1936, Vol. III, p. 166 and Vol. V, pp. 272-273.

[15] *New York World Telegram*, Feb. 21, 1944.

[16] *Survey of Current Business*, p. 10.

CHAPTER 2

The Product to Be Produced and Marketed

This chapter treats primarily of an analysis of the product we propose to market or are marketing, the general classification in which it falls, and the important facts that must be studied to market the product successfully. Production factors of drug store products are treated; the necessity for making a study of the physical characteristics of the product, the importance of preliminary consumer tests, and the problems of large-scale production. Marketing factors are dealt with; mistakes to avoid, reasons druggists buy certain products, product imitation, counterfeiting, competition, variations in purchasing power, consumer fashion trends, the life of the product, consumer reaction to price, and gaining consumer confidence. Other problems that the manufacturer must consider are treated briefly: patents and trademarks, government regulations on labeling, the proper classification of products and their outlets.

AFTER a consideration of the market, the next question confronting those who would take up the business of marketing drugs and cosmetics is the type of product to be produced and sold and the factors that must be considered in connection with its production and marketing. First let us look at the types of products that make up this field.

TYPES OF PRODUCTS

The drug or cosmetic product may fall into one of the following groups:

1. Ethical products
2. Proprietary products
3. Toiletries and cosmetics
4. Drug sundries

ETHICAL PRODUCTS: An ethical product is one that exactly follows the specifications listed in the United States Pharmacopeia or the National Formulary,[1] or that may result from new discoveries announced in New and Nonofficial Remedies[2] or medical compounds announced in scientific publications, which are accepted by the medical profession and later listed in the above standard publications of specification. Most ethicals are sold on prescription, but there are some, such as aspirin, Epsom salts, mercurochrome, and others, that may be bought for self-medication.

Since the product itself must in general conform to either the U.S.P. or N.F., competition in quality of product is practically impossible. Consequently, ethical products made by a new manufacturer, unless new products, are difficult to sell at a profitable price since they offer little opportunity for emphasizing special characteristics that may set them apart from the same product made by other manufacturers. Large organizations that have been manufacturing U.S.P. or N.F. preparations for many years are constantly engaged in research for new drugs and medical compounds. They take advantage of the research studies of universities and other groups and individuals who are engaged in advancing the knowledge of pharmacy in relation to the practice of medicine. They also have their own laboratories and spend many thousands of dollars in research along the lines in which they are especially interested. Some rather recent and commonly accepted products that have resulted from this type of research are insulin, ephedrine, viosterol, halibut oil. Even more recent are the family of vitamin products, sulfanilimide and the sulfa derivatives, and penicillin. Vitamins, however, have practically passed from the status of strictly ethical to that of proprietary. As a matter of fact the American Medical Association in 1944 took the position that most vitamin claims were excessive and began to fight the marketing methods used. Many products pass through an original ethical status, then become generally popular for self-medication, and finally are marketed as proprietaries. In this class are found aspirin, mercurochrome, Argyrol, and other drugs.

Ethical products are of the entire field, the hardest to market; they require a special technique in the approach to their market.[3] Their use is limited; consequently, prices are high and unit sales and sales volume are small for most of them. In addition, considerable educational work is required to acquaint the medical profession with their merits. Products of a strictly ethical nature are not quickly accepted by the medical profession. Unless prescribed first by physicians, which requires the creation of reputation and confidence obtained only after many years of effort and involves heavy expense in proportion to sales volume, their sales are small. The prices of such products frequently seem to the layman to be out of proportion to manufacturing costs. But when one considers the experimental and pioneering costs that must sooner or later be covered, prices may not be too high. For many of them, however, the market is not small, as the sale of vitamin tablets and capsules showed when prices were lowered substantially. As new products are developed, therefore, extensive research could well be undertaken to determine the possible markets at different prices.

PROPRIETARY PRODUCTS: A proprietary is either a medicinal or a curative product offered to the public

under a brand name and extensively promoted for direct consumer purchase. Originally such products were called "patent medicines." The product itself and its merits may be exploited to the fullest possible extent, as long as claims are not in conflict with certain governmental requirements, as indicated elsewhere in this book.

Proprietaries are found in two basic groups. They are either original, patented preparations manufactured under brand names, some representing new discoveries like mercurochrome, halibut oil, insulin, viosterol; or else they are combinations of standard medicines or home remedies, such as syrup of White Pine and Tar, Milk of Magnesia, aspirin, cod liver oil, and Castoria, advertised to the public or through the profession under brand names. Some of these products started as ethicals but gradually came to be marketed as proprietaries. Generally there is somewhat of an overlapping of marketing a drug product as an ethical and as a proprietary. The difference is as follows: ethicals are those products that depend largely on the prescriptions of physicians for their sale, whereas proprietaries are products marketed largely by direct advertising to the lay public.

Proprietaries may be branded substitutes for ethical products. They may be standard in the sense of conformity to the specifications listed in the U.S.P. or N.F., or they may be original products of the manufacturer and not so listed. However, the use of secret formulas is decreasing, as many cities now require the filing of formulas with the board of health before the products may be sold, while the requirements of the 1938 Food, Drug and Cosmetic Act may do away with them altogether.

ORIGIN OF DRUG PROPRIETARIES

In the early stages of proprietary manufacturing individuals discovered or created adaptations of standard remedies, pharmaceuticals, and ointments, and began to market them under brand names. Proprietaries were sometimes manufactured in drug stores and frequently took the place of prescriptions issued by doctors. One of the earliest of such products was Lydia Pinkham's Vegetable Compound, a product that still has a large sale, although on the market for more than 80 years. Patent medicines enable the manufacturer to concentrate on and create for himself a market for his remedies, and at the same time, by large-scale, standardized production, to give to the public a product uniform at all times, and comparatively low in price. The proprietary products become popular because they often seemed to enable the public to effect self-cures without going to the expense of employing doctors.

Through the educational effects of advertising, the proprietary manufacturer created a strong, consistent demand for his product. The public's faith in the efficacy of a product, having once been established and apparently maintained, the dealer was enabled to handle part of his trade with greater facility than formerly. As time went on many druggists, because of close contact with proprietaries in their own establishments and the possibility of small initial investments necessary to manufacture and merchandise the proprietary, were encouraged to manufacture some of their own. Some of these druggists have had small groups of professional acquaintances willing to help them finance their modest manufacturing ventures. In this way, many large organizations, now prominent in their fields, were founded. The field gradually has become crowded and there are now many competitive proprietaries in the market, all offering the same curative power.

The success or failure of a particular manufacturer's proprietary does not depend entirely upon its quality as a curative medicine because, in the long run, and with the exception of some unusual discovery, one proprietary is about as good as another for its intended purpose. Success in marketing is usually the result of sustained and constant advertising and other effective sales promotional methods.

The importance of proprietaries and their merchandising in the drug product market is ably set forth in the following statement:

> Investigation over a long period of years indicates that more and more of the merchandise handled by the drug trade is of proprietary character. Proprietary articles are those to which the manufacturer has the exclusive right, a fact which renders them extremely susceptible to abuse in trading by those who would make them leaders to induce other trade by means of deviation from the price named or suggested by the maker or proprietor. Now the demand for these proprietary articles is especially created by the proprietor or manufacturer, and it is the function of the retailer and wholesaler to supply them on demand, it being assumed that it is profitable to do so. This demand is created as the result of good will built by the proprietor for meritorious products by advertising to the consumer in one form or another.

World War II with its attendant shortage of doctors stepped up the sale of proprietaries. Self-medication has become more prevalent that ever, and this influence is likely to be with us for many years. Frequently doctors prescribe proprietaries for treatment of common ills and the public is becoming wise enough to make a purchase direct the second time.

TOILETRIES: The most extensive group of demand merchandise sold through the average drug store is toiletries. they can be grouped in classes; and in each class are thousands of different manufacturers competing for the limited consumer expenditures available for this type of product. Toilet preparations may be grouped as follows:

1. Cosmetics and beauty products in which class are included creams, powders, rouges, lipsticks, dipilatories, nail preparations, perfumes, deodorants, and toilet accessories like brushes, combs, and so on. This field has expanded considerably since 1900. The expansion has been due to the development of new habits. Formerly the use of cosmetics was limited; now their use is practically universal in Occidental countries and among the wealthier Asiatics, some products being used by men as well as women. With this growth has come increased competition for the druggist and the manufacturer, although competition has largely been one of ideas and marketing expedients rather than product because of the increase in numbers of purchasers. Through greater purchasing power created by war income, per capita purchases of individuals increased steadily and the starting age of users dropped, so that the prospective market broadened tremendously. A large portion of this market will remain with us even in the postwar period.

2. Oral preparations, in which are included dentifrices

like tooth pastes and powders, mouth washes, and oral antiseptics.

3. Men's articles, in which are included hair dressings, shaving creams, lotions, talcum powders, brushes, and razors.

4. Soaps, which include hand and toilet soaps, house and laundry soaps and other products which make for personal cleanliness, such as shampoos and facial cleansers.

Druggists include toiletries in the group they call "hand sale" because in selling them usually little professional knowledge or extensive sales efforts are required, and therefore little of the druggists' professional time is used. This group of products is heavily promoted, is highly competitive, and, at the same time, if successful, holds forth the possibility of immense profit. Since technical knowledge on how to use them is necessary, some druggists are now employing women to push their sale.

The successful marketing of products included in this group is dependent upon ingenuity in merchandising ideas and ability to anticipate consumer preferences, needs, and tendencies.

DRUG SUNDRIES: Among drug sundries we place many objects that are actually not drug products although they are marketed through the drug stores. Here are found a variety of rubber goods and other necessities for the sick room and such products as alarm clocks, stationery, cameras and supplies, bathing equipment, toys and, in a large number of stores, also books, magazines, and newspapers.[4] The principles of marketing that apply in any general merchandise field apply in the drug field with this exception—the druggist's own likes and dislikes must be carefully considered in offering products to him. A druggist always feels that he is a professional man and that the following he has must be catered to in the professional manner, even though many druggists are dependent today on the successful creation of appetizing sandwiches and thirst-quenching drinks.

PRODUCTION FACTORS OF DRUG STORE PRODUCTS

PHYSICAL CHARACTERISTICS: After the manufacturer has decided on the product that is to be marketed, he must make a study of the physical characteristics of the product. He must ask himself a number of questions. What ingredients are to be used and are these the best for the purpose? What physical conditions must the product be prepared for; how long is it likely to be in stock before being consumed; what heat, cold, and handling is it likely to undergo? In what way does the product differ from those already on the market? How superior is it, if at all?

Some of these questions can be answered only by directly comparing the proposed product with others on the market. The rest can be taken care of in the laboratory.

CONSUMER TESTS: In order to be sure that the product which is to be marketed merits the confidence of the entrepreneur who is to invest in its manufacture and marketing, it is essential that consumer tests be made. These users' tests, when properly conducted, go a long way toward determining whether the product is right and the plans for marketing it correct. The tests must be comprehensive. They should cover several areas and a reasonably large number of people. Caution must be sounded against limited tests, since these may furnish insufficient data for sound conclusions and, consequently, when the sale of the product is spread over wider fields weaknesses in both product and sales plans of a serious nature may develop. These ought to be discovered and corrected before serious harm is done to anyone.

LABORATORY VS. LARGE-SCALE PRODUCTION: Many articles, accepted by the public in preliminary market tests, and seemingly found to be practical when manufactured on a small scale, reveal difficulties of manufacture when large-scale production is attempted. Often errors creep in, the seriousness of which is revealed only when the merchandise deteriorates after being in the hands of the dealer for a period of time, or a variety of mistakes may occur in processing the product that come to light only when the consumer uses the product. These are some of the factors that, unless guarded against, make it difficult for merchandise to create permanent good will and thus have a steady and profitable sale. In some cases near disaster may be the result. In 1943 it was discovered that many thousands of bottles of Castoria had been contaminated. The company had to issue public warnings to have all packages returned. For over one year not one bottle of Castoria was sold to the public. During this time a new product was manufactured and the most exhaustive tests were made on the new product to be sure that it complied with all standards of purity and safety. Obviously no chances could be taken in beginning to ship merchandise until the manufacturers were absolutely certain that it was perfectly safe. New packages were designed, lot numbers were provided for each group, and finally, after about fifteen months (June, 1944), the company announced it was ready to ship again. Not only were there enormous losses incurred in taking back merchandise, stopping shipments for over one year and changing packages, but also there was a loss of good will, with an effect on sales that is hard to calculate.

MARKET FACTORS IN THE SELECTION OF PRODUCTS

IMPORTANCE OF A KNOWLEDGE OF THE MARKET FACTORS: It may be just as catastrophic to dive into the manufacturing of a product without complete knowledge of all conditions surrounding it as to dive into water without a knowledge of its depth. When a manufacturer is considering going into a market he should be sure that he knows the potential sale of the unit in his trading area. Some products, for instance, may have a potential sale of $12.00 per customer a year. Other products may have a potential sale of only 50c. or $1.00. Some products have a high rate of consumption; others have not. Furthermore, in some fields there are such strong brand dominations, and so little consumer switching, that there is very little opportunity for new products to succeed. On the other hand, in certain fields there is little brand domination, and the floating market is large and not set in favor of a few products, thus leaving room for new manufacturers to gain a foothold.

Research will reveal these facts. The forecasts of research departments should be used to guide the manufacturer in selecting the product to be made and sold. This is of material aid in eliminating the expense of

promoting potentially unsuccessful products.

MISTAKES TO AVOID: The common mistakes made by those unfamiliar with the details of producing and marketing drug and cosmetic products are: (1) the use of an improper base material in a mixture for retaining the products characteristics over a period of time; (2) making claims for the product that do not stand up under scientific testing; (3) failure to follow the rules of the Food and Drug Administration as to labeling the product and the rules of Federal Trade Commission as to advertising the product; (4) the use of the wrong type, or materials, of package; (5) inefficiency in the use of marketing practices in the sale of the product.[5]

The newcomer in the field will be well advised to make a confident of one of the old-line trade manufacturers, who usually is glad to put at the newcomer's service their experiences of years in this field.

WHY DRUGGISTS BUY CERTAIN PRODUCTS: The manufacturer must prepare a large number of reasons why his products should be accepted in preference to others that are on the market; he must discover just what his particular offering has in common with others, and in what way it differs; in what purchasing group his product will fall and what the purchasing power of his prospective customers is; he must try to judge as accurately as possible consumer demand, and have some knowledge of the trend in consumption. This knowledge, when properly used, will aid materially in successful marketing of a product.

Merchandise cannot be sold unless it meets the consumer's psychological or physical needs. Consequently, the product must be designed or created to cause favorable psychological or physical reactions in the individual whose money is to be obtained in exchange for the product. This indicates the need for thorough and careful analysis of the market that is to be covered.

The formula for success in securing distribution through drug stores is strikingly revealed in a survey made for Sales Management[6] among 500 druggists in Chicago. Experience in selling and conferring with druggists suggests that this survey is representative of the trade. Druggists like, as may be seen from the accompanying table, first of all a high markup; second, rapid turnover; third, consumer advertising; fourth, stabilized prices, and next, quality of product. They do not like to sell products that bring insufficient profit, that are not on the fair-trade list, and that have little or no turnover. In addition the survey showed the branded products the druggists liked best to sell and those they liked least. Producers and sellers of medicines and cosmetics should ponder over this survey more than a little.

The formula seems simple, but on examination it will become apparent that it is not as simple as it seems. For example, one might say "Let's put out a product and price it so that the dealer secures the margin of profit he desires." But there can be no margin of profit for anyone unless consumers are willing to buy. Turnover then becomes more necessary than markup, and turnover is a compound of many items such as price, quality, coordination of advertising in all its forms, appearance of product, competition, geographical, economic, and social factors, demonstrators, and sampling. Consequently, to make a product and to map a campaign requires the study of a host of facts and experiences and a program of action that in many cases take large sums of money to put into effect.

Reasons for Not Liking to Sell Specific Products

	Percentage of Those Interviewed
Markup	30.3
Turnover	26.3
Consumer advertising	14.2
Stabilized prices	11.7
Quality of product	9.9
Deals and free goods	2.1
Stores and window displays	2.1
Quantity discount	1.9
Salesmen	0.6
All others	0.9

Reasons for Not Liking to Sell Specific Products

	Percentage of Those Interviewed
Insufficient profit	58.3
Not on fair-trade list	33.3
Little or no turnover	4.4
All others	4.0

POSSIBILITIES OF PRODUCT LIMITATION: It is essential for any manufacturer to determine carefully the extent to which his product can be imitated, both in its basic characteristics and in its appeal to consumers. Any product that is successful will attract imitations, which may be either inferior or equal in quality. The imitators will be other manufacturers, wholesalers, chains, and cooperative retail buying groups. Successful imitations gradually cut into one's volume of sales. The smaller the opportunity for imitation of the product, the greater the potential market and the possibility of success. This means that every product selected must be analyzed to determine whether it is of such a nature as to make exploitation by others impossible. The more original the product, the more distinctive the appeal, the more it can be differentiated from other products, the greater will be the possibility of securing results commensurate with the effort put forth to produce and market it.

PRODUCT COUNTERFEITING: The factor of counterfeiting presents a problem hard to solve. Many manufacturers place secret tracers in their products to aid in the detection of counterfeiting. One way by which a product can be secretly marked is by placing hidden serial numbers or special symbols on wrappers that cannot be broken without detection, or by sealing bottles. Another way is by including in the product some innocuous chemical that is ordinarily not discoverable except by the most thorough analyses and search. Some firms use special registered paper for their labels. In fact, there are many ways, depending upon one's ingenuity, by which counterfeiting can be guarded against. There are firms that specialize in working with manufacturers in the detection and elimination of counterfeiting and any trade paper like THE AMERICAN PERFUMER or *Drug Trade News* will be glad to place you in touch with them.

PRODUCT COMPETITION: Drug and cosmetic products are subject to several kinds of competition, and the manu-

facturer should be aware of these before he begins the production and distribution of a new product. If a manufacturer decides, for instance, to put a new tooth powder on the market he must be familiar with the price to consumer and dealer of similar products already on the market, for his tooth powder must compete with the known and established ones. Also he faces competition from products that are dissimilar in appearance but designed to accomplish the same purpose as his tooth powder, that is, tooth pastes and liquid dentifrices. Another type of competition the producer must meet is that from tooth powders that are purchased on the basis of a brand name. All these types of competition are considered more fully in Chapter 3.

SEASONAL AND CLIMATIC INFLUENCES: Products that are affected by seasonal and climatic influences are also in need of careful analysis before their manufacture is decided upon. Experiences indicate that a product that may be perfectly safe to use and that meets a need of the consumer in cold weather, may develop unattractive and harmful qualities in warm weather. For instance, the manufacturers of chocolate laxatives found it difficult to sell their product in hot communities or in the summertime. The heat brings the butter fat of the chocolate to the surface, causing the merchandise to become spotted and unsightly. Some creams, unless properly and carefully prepared, will melt in hot weather. Other creams packed in tubes sometimes separate. Some tubular products become hard and dry out. Some shampoos when too cold become cloudy and separate. Certain base materials in gelatine capsules when exposed to heat may dissolve the gelatine and leave a sticky mess instead of a curative drug. Thus thorough tests are necessary to discover the climatic limitations of a product.

Products may have greater or less sales possibilities, either because of seasonal factors or climatic conditions. They may have greater marketability in the warmer parts of our country than in the colder or vice versa. It is well to consider that merchandise which is sometimes marketable geographically may be only seasonably acceptable. These conditions effect seriously the distribution of any unit and its sale.

VARIATIONS IN PURCHASING POWER: Purchasing power changes constantly, thus influencing purchases. In the depression years, the trend was toward smaller units. During World War II, because of container scarcities and higher income, the trend was to larger sizes. This trend may change in the other direction and care must be taken to catch the trend and work with it.

CONSUMER FASHION TREND IN MERCHANDISE: Strange as it may seem, there are what appear to be consumer fashion trends in drug products. For instance, for years the trend in laxatives was toward chocolate laxatives. These lost public favor to mineral oils. Then milk of magnesia followed, and more recently there has been a general acceptance of the seed type of bulk laxative such as psyllium. This does not mean that type, each as it is accepted sells to the exclusion of those previously popular, but merely that large numbers of consumers stop using the one type and change to the other.

There are trends in the treatment of head colds. Recently we have seen the rise of medicated oils as usual remedies. Prior to this, catarrhal jellies were the vogue. Prior to this vaporous products were most in public favor. Even the doctors are not immune to trends. Cod liver oils for children were universally used a few years ago. Then vitamin concentrates such as viosterol and haliver oil seemed to enjoy the physician's favor, and most recently it is the vitamins, tablets and pills, simple and complex, that seem to be favored. Other medicinals have a trend too, governed largely by the results of research in medicine and late discoveries. The sulfa drugs and penicillin are the latest types that are most generally favored for many ills. Very frequently new discoveries or ideas will change the trend of public favor considerably as witness the rapidly mounting sales to heights of $200,000,000 (1944) in vitamin tablets and pills.

These facts give one a general conception of the strong influence of fashion in the marketing of even drug products, which usually are considered as having a steady, stable demand. Fashion trends should be determined and followed, if largest sales are to be secured. If a drug product is likely to be marked by fashion or type preferences, then the manufacturer must anticipate these trends just as carefully as does any manufacturer of wearing apparel or other types of commodities so effected.

There are also fashions in cosmetics. Sometimes these trends follow the fashion trends of clothing; sometimes the fashion trends follow the creations of enterprising manufacturers. In 1938 there was a sudden popularity of facial creams and cleansing creams furnished in saturated pad form for quick use. This fad did not last very long, however; two or three years later it had practically disappeared. But enterprising manufacturers followed the fashion by putting up deodorant pads in the same manner. A rather recent trend has been the rise in the use of powder bases, first in liquid, then in stick, and later in cream form. A few years ago vanishing creams were used as powder bases. Since then habits and users have changed radically. The latest trend in powder bases seems to be the cake form. This was first promoted by Max Factor; soon others followed. Surveys in 1944 showed that 37 per cent of all powder bases used were the cake type. This was a rise from three per cent in 1940.

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[1] Referred to hereafter as U.S.P. and N.F.
[2] N.N.R.
[3] A later chapter discusses ethicals more fully and suggests techniques for merchandising these products.
[4] A store like Webb's in St. Petersburg, Florida, has become virtually a department store with a drug section. Also see the Red Cross Pharmacy in Miami, Florida.
[5] See in this connection the interesting pamphlet, *Little Stories of Big Mistakes*, compiled by C. E. Jamieson & Co., Detroit, Michigan.
[6] *Sales Management*, June, 1938.

(Chapter 2 continues in the subsequent issue.)